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                  IN THE UNITED STATES DISTRICT COURT
                   MIDDLE DISTRICT OF NORTH CAROLINA
 2
   DAVID HARRIS, CHRISTINE
 3
  BOWSER, and SAMUEL LOVE,
                                     ) Greensboro, North Carolina
                                     ) October 14, 2015
 4
       Plaintiff,
                                      9:06 a.m.
 5
       VS.
 6
  PATRICK MCCRORY, in his
   capacity as Governor of North
                                     ) Case No. 1:13CV949
  Carolina, NORTH CAROLINA STATE
   BOARD OF ELECTIONS, and JOSHUA
  HOWARD, in his capacity as
   Chairman of the North Carolina
   State Board of Elections,
       Defendants.
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11
12
        TRANSCRIPT OF BENCH TRIAL VOLUME II OF III HELD BEFORE
    THE HON. WILLIAM L. OSTEEN, JR., UNITED STATES DISTRICT JUDGE
      THE HON. MAX O. COGBURN, JR., UNITED STATES DISTRICT JUDGE
13
       THE HON. ROGER L. GREGORY, UNITED STATES DISTRICT JUDGE
14
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22	Court Reporter:	Joseph B. Armstrong, RMR, FCRR 324 W. Market, Room 101		
23		Greensboro, NC 27401		
24	Proceedings reported by stenotype reporter. Transcript produced by Computer-Aided Transcription.			
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1	INDEX	
2	WITNESSES FOR THE PLAINTIFF:	PAGE
3	STEPHEN DANIEL ANSOLABEHERE Direct Examination By Mr. Hamilton	262
4	Cross-Examination By Mr. Farr Redirect Examination By Mr. Hamilton	331 417
5	Recross-Examination By Mr. Farr	421
6	WITNESSES FOR THE DEFENDANT:	
7	DAN FREY	
8	Direct Examination By Mr. Peters	431
9	Cross-Examination By Mr. Speas	458
10	THOMAS BROOKS HOFELLER Direct Examination By Mr. Farr	466
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
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24		
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October 14, 2015
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              (At 9:06 a.m., proceedings commenced.)
 3
             JUDGE OSTEEN: All right. Good morning, everyone.
 4
   Mr. Hamilton, it looks like you're ready to proceed.
 5
                           We are, Your Honor. At this point
             MR. HAMILTON:
 6
   plaintiffs call Dr. Stephen Ansolabehere.
 7
             JUDGE OSTEEN: All right. Before he walks in the
 8
   courtroom, so we have a motion in limine outstanding.
   taken that under advisement. The motion and the response and
 9
   the reply seem to fairly frame the issues. Mr. Farr,
   anything -- I'm not suggesting further argument is necessary,
11
12
   but anything further you want to add to what's been pretty
   thoroughly briefed already?
13
             MR. FARR: Your Honor, we have no objection to the
14
   Court hearing the testimony and then ruling on the motion after
15
  you've heard what the expert witnesses have to say.
16
17
             JUDGE OSTEEN: All right. Let's proceed ahead.
   We'll let those objections raised in the motions stand, so if
  there are additional objections during the testimony, make sure
19
   to make those. All right. Let's proceed ahead.
20
             MR. HAMILTON: All right. Thank you.
21
             (Witness sworn by the clerk.)
22
             MR. HAMILTON: And, Your Honor, we prepared witness
23
  notebooks which I believe the Court has in front of them.
24
25
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1 STEPHEN DANIEL ANSOLABEHERE, 2 PLAINTIFF'S WITNESS SWORN AT 9:07 a.m. 3 DIRECT EXAMINATION BY MR. HAMILTON: 4 Good morning. Can you please state your name for the 5 record, sir. 6 7 My name is Stephen Daniel Ansolabehere, Stephen with P-H, and Ansolabehere is spelled A-N-S-O-L-A-B-E-H-E-R-E. 9 Thank you. Dr. Ansolabehere, you're an expert for the plaintiffs in this litigation? 11 I am. 12 Let's start with Plaintiff's Exhibit 17 and 18. They're in the notebooks in front of you. Can you please take a moment to look at those exhibits and tell the Court what those are. 14 Exhibit 17 is my expert report in this case, and 15 Exhibit 18 is a reply report. 16 17 And do these reports contain your CV or resume? 18 Α They do. Exhibit 17 contains my CV. And can you point the Court to where that document begins. 19 It begins after page 41. 20 **|**| A Is that a complete and accurate summary of your 21 10 educational background and professional experience, sir? 22 It is. 23 Α Can you summarize briefly for the Court your background 24 25 and training.

generally.

I received my Bachelor of Arts and my Bachelor of Science 1 2 from University of Minnesota. I received my Ph.D at Harvard 3 University in Government and political science. My first job was at UCLA as an assistant professor, and then I moved to MIT. I taught at MIT for about 14 years where I held the Elting E. Morison chair, and then I moved to Harvard University, and I've 6 7 taught there since 2008. And what degrees do you currently hold? 8 9 Bachelor degrees, Ph.D, and in passing I received a 10 master's degree. And what is the field your Ph.D was granted? 11 12 Political science. lΙΑ 13 And have you attended law school? No. 14 lΑ 15 Not a lawyer? 16 Α No. Where are you currently employed? 17 18 Α I currently work at Harvard University. And where else have you taught? 19 20 UCLA, MIT, and Harvard. Α 21 And at Harvard, what are your principal areas of research and study? 22 23 My principal areas of research and study are voting behavior, elections, representation, American Government

I teach the graduate and undergraduate Ph.D level

and undergraduate courses in American Government. statistical methods in social sciences as well. 2 3 And have you published any peer-reviewed articles or studies in the area of redistricting? I have, as well as a book. 5 6 As well as a book; is that what you said? 7 Yes. Okay. Can you describe those -- that book -- well, let's 8 start with the book. What was the book? The book is called The End of Inequality: One Person, One 10 Vote and the Transformation of American Politics. 11 12 JUDGE OSTEEN: Doctor, that microphone, the more you can kind of keep it directly in front of your face --13 THE WITNESS: Got it. 14 JUDGE OSTEEN: There you go. 15 16 MR. HAMILTON: All right. Thank you. BY MR. HAMILTON: 17 18 And what's the book about generally? The book is about the one person, one vote cases from the 19 1960s and how they changed American politics and the subsequent cases and the adjustment of the political parties, racial 21 representation, and so forth. 22 All right. And you mentioned you published some other 23 peer-reviewed articles or studies in the area of redistricting. 25 Can you identify for the Court what those are.

1 Um --2 Are they listed in your resume? 3 They are listed. The articles and journals begin on page 2. I have a piece forthcoming in NYU Law Review called Testing Shaw v. Reno. 5 6 Next piece would be from Harvard Law review in 2013, 7 Regional Differences in Racially Polarized Voting. Following that 2013 as well, The Effects of 8 9 Redistricting on Incumbents in the Election Law Journal. Following that, Partisanship and Public Opinion on 10 Redistricting in 2010, also in the Election Law Journal. 11 12 Following that in 2010 as well, Race, Region -whoops, a typo -- Race, Region, and Voice Choice in the 2008 13 Election, also in the Harvard Law Review. 14 15 All right. We can stop there. They're all listed, safe to say, in your CV? 16 17 Yeah. 18 Who else teaches and writes in this field of study? Other political scientists include Bernie Grofman at UC 19 Irvine, Bruce Cain at Stanford, my colleague Nate Persily also 21 at Stanford, Charles Stewart at MIT, a long list. It's a very substantial part of our discipline. 22 23 And you know these gentlemen? 24 Yes. 25 And you work with them?

1 Yes. 2 Do you have expertise outside of academia with redistricting? 3 Yes, I do. And could you describe to the Court what that is. 5 6 I've worked as an expert witness in about a dozen cases. 7 And in what context? In redistricting cases and other voting rights cases since 8 9 2011. So let's start with what states have you appeared in as an 10 expert witness in connection with redistricting? 11 In connection with redistricting specifically, in Nevada, 12 the case of Guy v. Miller. In Florida, a series of cases. The first was a 14 proceeding in the Florida Supreme Court. It was essentially 15 kind of a facial review of the House and Senate plans and then the subsequent lawsuit in the Congressional Plan called Romo v_{ullet} 17 18 Detzner. In Virginia, the Harris -- the plan involving the 19 House -- I'm sorry -- the dispute involving the House of 20 Representatives districts that's currently before the Court. 21 The trial is already finished, but the decision is yet to come. 22 In the state of Texas, a series of cases. 23 Section 2 and Section 5 and Section 3 cases involving the Texas

redistricting dispute. All those trials are finished.

25

Section 2 and Section 5 -- the Section 5 dispute was settled and vacated by -- that was vacated by the Supreme Court when 2 Section 4 was overturned, but -- and the Section 3 dispute, the 3 trial was held last summer, and we're waiting for a decision. You testified as an expert in each of those matters? 6 Correct. 7 In each of those matters, were you accepted as an expert witness by the courts hearing those cases? 9 I was. Has any court in any jurisdiction in any matter in which 10 you've appeared ever rejected you as an expert in your field of 12 study? 13 No. Let me just ask you about one item on your resume. 14 believe it's on page 13. It says CBS Election Decision Desk 2006 to the present. What is that? 16 17 Since 2006, I've worked on the CBS Election Decision Desk. That is the group of people brought in by CBS Nightly News to call the election on election night. We use past election 19 data, registration data, census data to make models to forecast 20 what the election will likely be. Then over the course of the 21 night, we receive realtime data on votes in the individual 22 precincts and the exit polls to make projections about which 23 congressional districts, which states, and -- for senate, 24 25 governor, and president, have been won by each of the

```
candidates and make projections about who has won the
 1
  presidency, the House, the Senate, and the governorships.
 2
        And you've done that for about nine years now?
 3
        Yep, every general election and also the primary elections
 4
  for the president.
 5
        How's the track record of the team for the Decision Desk
 6
 7
   in projecting the results of elections so far?
        The team has not had to walk back any decisions we've
 8
   made, and we haven't missed anything.
10
        All right. Thank you.
             MR. HAMILTON: Your Honors, at this point, pursuant
11
12
   to Evidence Rule 702, I would proffer Dr. Ansolabehere as an
   expert in the field of electoral politics, voting behavior, and
13
  statistical methods.
14
15
             JUDGE OSTEEN:
                            Any voir dire?
16
             MR. FARR:
                       I'll save it for the cross, Your Honor,
   and I will say we don't -- we're not arguing that
17
   Dr. Ansolabehere is not a distinguished political scientist.
   Our argument is that the methodology he used in this case is
19
   inappropriate because of a ruling by the US Supreme Court.
20
21
             JUDGE OSTEEN: All right. I'll then admit
  Dr. Ansolabehere as an expert witness in the field of -- could
22
   you repeat that again?
23
24
             MR. HAMILTON: Sure, electoral politics, voting
   behavior, and statistical behavior.
25
```

```
In the field of electoral politics,
 1
             JUDGE OSTEEN:
 2
   voting behavior, and statistical methods. You may proceed.
 3
             MR. HAMILTON:
                            Thank you, Your Honor.
   BY MR. HAMILTON:
 4
        Let's turn to your work specifically with respect to this
 5
   case, Doctor, and I believe you identified Exhibits 17 and 18
 6
   as your reports in this matter, is that correct?
 7
        Correct.
 8
   Α
 9
        What was the purpose of preparing these reports?
        The purpose for preparing these reports was to analyze the
10
  Districts CD 12 and CD 1 in North Carolina and assess the
11
12
  racial composition and racial representation.
13
        And are they complete and accurate descriptions of your
  analysis and methodology?
14
15
  Α
        They are.
        Do they contain a summary and explanation of your analysis
16
  of -- in this case?
17
18
  Α
        They do.
        All right. What were you asked to do specifically?
19
                                                              Is
  that contained in your report somewhere?
20
21
        It is. On page 3, paragraph 4, I was asked to assess
  whether race was a predominant factor in the configuration of
22
   CD 1 and CD 12 in North Carolina.
23
        And what materials did you review in order to form an
24
   opinion and prepare the reports before the Court?
25
```

- I reviewed maps, election data, registration data, census 1 data. All that information was provided through the General 2 Assembly's website. 3 Did you feel you had an opportunity to review all of the materials necessary to reach the conclusions that you've 5 provided in your reports? 6 I did. 7 And were you able to reach a conclusion with respect to 8 whether race predominated in the drawing of CD 1 and CD 12 in North Carolina? 10 I did. 11 12 And what is that conclusion? 13 My conclusion was that race was the predominant factor. All right. With respect to both districts? 14 15 Yes. Okay. Let's just -- let's just briefly identify for the 16 Court how you reached that conclusion, and then we'll walk 18 through the individual steps of your analysis in a minute. But I think it might be useful to hear a roadmap first, sort of 19 like a skeleton outline of what was your steps of how you got 20 21 there.
- 22 A Okay.
- 23 Q Can you describe that.
- 24 A So the main things I looked at was, first, the geographies
- of the districts, especially compactness and crossing of county

1 and city lines.

The second thing I looked at was the racial composition of the districts relying primarily on census data.

The third thing I looked at was the areas in which the districts were located and the counties in which those districts were located and the parts of the population of those counties that ended up in the districts and the parts of population of those counties that ended up outside the district.

Then I looked at the movement of Voting Tabulation

Districts in and out of the district. Voting Tabulation

Districts are a small census area, roughly equivalent to a precinct. So I was looking at how the areas got moved in and out of the district as it was reconfigured from the benchmark map from 2001 to 2011 into the Rucho-Lewis map in 2012.

Then finally, I examined whether race predominated over party in the configuration of the districts by looking at registration data and related electoral data.

- Q And did these separate analyses point in different directions or in the same direction?
- 21 A They all told a pretty consistent picture about the districts.
- Q Okay. Well, let's start with step one of your analysis.

 I think you said that was geography including compactness and

 VTD or jurisdiction splits. Why does compactness matter in

these cases? 1 2 Compactness is a traditional redistricting principle. 3 It's looked at a lot. It's kind of something we look at to see whether or not there's something unusual about the configuration of districts. It's more of a red flag. not a clear, clean standard like this is the bright line we 6 7 draw for compactness. But when we see a substantial reduction in compactness or highly non-compact district, it just sort of 9 flags that we should take a closer look. And why? What might that tell us? Why is it a red flag? 10 It forces the analyst, somebody like me, to ask what 11 12 additionally happened to the district, why was the district configured this way, what was the objective, or what was the 13 effect? 14 15 And were you able to reach a conclusion with respect to the geographical compactness of these two districts, CD 12 and CD 1? 17 18 Α I was. 19 And what was that opinion? 20 My opinion was that CD 1 saw a substantial reduction in 21 There are different measures for compactness. compactness. looked at two. One is the spread of the area, and one is the 22 configuration of the perimeter, and both of them showed -- both 23 measures showed that there was a pretty substantial reduction 24 25 in compactness of CD 1. There was also a substantial reduction

- in compactedness in CD 12, but CD 12 is also highly non-compact 1 so it wasn't too much further to go, but it went even further 2 along that standard. 3 So how does a social scientist measure compactness? There are a lot of different measures of compactness, but 5 6 I think there are two big concepts. One concept is how spread 7 out is a district in terms of its area, and the other is how unusual or jagged is its boundary compared to a district with 8 similar area. 9 And what is the commonly used measure of compactness in a 10 redistricting analysis in most of these court cases? 11 12 The Reock measure is probably the most commonly used, and it's a measure that was developed in the 1960s by a man named Reock. 14 And how do you spell that? 15 16 R-E-O-C-K. 17 And can you describe how that test works? 18 That test is to imagine the most compact possible area. The most compact possible area is a circle. So compare the 19 area of a hypothetical district, which would be eye circle --20 and every once in a while we do see a district that is about 21
- area of that circle to the area of a given width to the area of the district that is of the same length, okay. So the district may be 120 miles long. So how big would an area of a circle be

the shape of a circle in some states -- and then compare the

- that had a diameter of 120 miles, and now what's the area of that circle compared to the area of the actual district? 2 And what are the range of scores for Reock? 3
- So the area of the districts in the top and the area of the circles in the bottom, and that ratio ranges from zero to one where one would be most compact district, a circular-shaped 6 district. A district that's a perfect square based on simple
- 7 8 geometry would have a Reock of .64 always.
- What was the Reock score of the original gerrymander? 9
- So there were two original gerrymanders back in 1812 drawn 10
- by Elbridge Gerry in Massachusetts. One was a state senate
- 12 seat and one was a congressional seat. The state senate seat
- had a Reock of .19, and the state -- the congressional seat, I 13
- believe, had a Reock of .28.
- 15 And how did that compare to CD 1 and CD 12 in the 16 Rucho-Lewis map?
- Under the Rucho-Lewis map, the Reock of CD 1 is, I think, 17
- .29, which is about the same as the original gerrymander, and
- then the Reock of CD 12 is .07. That is the area covered by 19
- CD 12 is 7 percent of the ideal district area.
- 21 Fair to say that's lower than either of the two original gerrymanders? 22
- 23 Correct. Α
- 24 Are you familiar with the interocular measure?
- Yeah, my colleague Bernie Grofman likes to call the visual 25

```
inspection of the map the interocular measure, how does it
 2
  look.
 3
        How does it look. So what criteria are generally
   considered traditional redistricting criteria?
        In addition to compactness, contiguity, make sure all the
 5
   pieces actually stick together. Respect for political
 6
   boundaries such as counties and towns because the counties and
 7
  towns administer the elections. The more you cross them up,
   the more you split those counties, the harder it is to run
   elections, the more complications you create for the
  administrators. Respect for local communities, and that's
11
12
   often reflected also in splits of counties and towns because
  people tend to live in cities or in counties.
13
        And where you see traditional redistricting criteria
14
   ignored or violated by highly non-compact districts or split
  counties or jurisdictions, is that significant in your
16
   analysis?
17
18
        Again, in some states there are state laws that have
  requirements that you violate certain standards. But for me as
19
   an analyst looking at electoral census data and so forth, it's
20
21
  more raising a question of like what was -- what happened here?
  Was this more motivated by one other objective such as party or
22
23
   race?
        So looking specifically at Congressional District 1, how
24
   did that change from the benchmark map to the enacted map, the
25
```

```
Rucho-Lewis map?
 2
        The geography of the -- the district was underpopulated by
 3
   about 97,000 people, so it had to obtain about 97,000 people to
   adhere to one person, one vote, and the district shifts -- it
   sort of recedes slightly from Eastern Tennessee -- Eastern
  North Carolina and grabs a portion of Durham.
 6
 7
        And how did that affect the compactness?
  compactness change from the first -- from the benchmark --
        It reduced the compactness --
 9
10
        By how much?
        Depends on the measure. In the Reock, it reduces it from
11
12
  .39 to .29, I recall. In the area-to-perimeter measure, I
  think it went down from -- I think it was cut by about 50 --
13
  cut in half.
14
15
        And did you report those numbers in your report somewhere?
        Yes, in Table 1.
16
17
        Could you tell us what we're looking at in Table 1 of
   Exhibit 17 which is the -- your initial expert report?
19
        So the first two columns correspond to the Reock score
   under the benchmark map, the 2001 to 2011 map, and the second
21
  column in there is the Rucho-Lewis map. The first row is
  District 1. So the Reock score was reduced from .39 to .294.
22
23
        So how much of a reduction is that with respect to CD 1
   expressed by percentage?
        So it's a drop of .1 in Reock, and it depends if you
25
```

 \parallel use -- which you use as the baseline. But it would be a reduction of 25 percent in one case if you use the baseline as 2 the denominator, about 35 percent if you use the other. 3 Is that significant in your expert opinion? Okay. Yes. And in the case of the area-to-perimeter ratio, 5 that's for every mile of perimeter for a district how much area 6 7 in square miles is being incorporated. So as you draw a line around -- if you drew a line around it, how squiggly is that 8 9 line? The squigglier the line, the less area you're taking in for every mile, so the more contorted the line is. Here, the reduction is for every -- the ratio of the 11 12 area to the perimeter is out 11,000. That's pretty compact for 13 every line. That means the lines are pretty smooth. Then it's cut in half roughly down by about 40 percent under the 15 Rucho-Lewis map so that's a substantial reduction as well. Are there other districts in the Rucho-Lewis map that are 16 also non-compact, that is, had their compactness drop between 17 the benchmark and the enacted plan? If you read down for each row, you can see the 19 changes in compactness. District 4 had a substantial reduction 21 in compactness by both measures, District 6 had a substantial reduction in compactness by Reock, but not by area of the 22 perimeter. District 9 had a substantial reduction in 23 compactness. District 11 had a reduction in compactness, and 24 District 12 had a reduction in compactness. 25

I believe you said you also looked at how the 1 All right. plans treated local political subdivisions like counties, 2 cities, and Voting Tabulation Districts, is that right? 3 That's right. And how did CD 1 fair by that by that measure? 5 CD 1 increased the numbers of county splits considerably. 6 7 I think there were nine county splits under the benchmark map, and there were 18 county splits by my count, but plus one --Beaufort county has a small split. It's kind of trivial, so I didn't really count it as a split originally. And how about cities or towns in CD 1? 11 12 I'd have to look at the number. The report on page 6, paragraph 13, presents the county splits, and there are 22 city and town splits in CD 1. 14 15 All right. Let's turn to Congressional District 12 now. How did that fair in terms of compactness in the change from the benchmark map to the enacted map? 18 CD 12's Reock score was reduced from about .116, I think, to .07. So it's a four-point reduction, but we're already in a 19 highly non-compact district, so the percentage reduction is pretty substantial. 21 What was the typical Reock score for a district -- the 22 congressional districts in the Rucho-Lewis map? 23 24 State-wide if you took all the states, the average

district had a Reock score of .377.

25

All right. And how did that compare to the Reock score in 1 2 the Rucho-Lewis map for the CD 12? 3 The CD 12's Reock score is .07. So that's five times -the average district is five times more compact than CD 12. What was the least compact district in the state? 5 6 CD 12. 7 And is that -- I guess the compactness scores are also recorded on Table 1 of your report, Exhibit 17? 9 Correct. 10 And how much, expressed as a percentage, did that change from the benchmark to the enacted plan? The benchmark was 12 already a non-compact district, wasn't it? Yes, it was. 13 Α 14 So how much did it change? How much did we come even 15 more --16 .04 divided by .11, which is going to be about a 17 37 percent reduction. 18 Okay. Aren't there other districts that are also non-compact in the Rucho-Lewis map? 20 Α Yes. Okay. So why is this particularly significant as to CD 12 21 or CD 1 if there are other non-compact districts as well? 23 Again, we use compactness to look for sort of red flags, there's something going on and something unusual, was there a

reduction, should we look closer at the district?

```
All right. So CDs 4, 6, and 9 border on CDs 1 or CD 12,
 1
   correct?
 2
        Correct.
 3
        Are they affected by the changes to the two districts at
 5
   issue here?
 6
        Yes, as the boundaries of CDs 1 and 12 become less
 7
   compact, the boundaries of the neighboring districts can become
  less compact as well, and in this case there were substantial
 8
   reductions in the compactness of the bordering districts.
10
        Okay. And how about new CD 11? What controlled it's
11
  shape?
12
        CD 11 is on the far western end of the state, and it's
   defined -- its compactness is defined by the shape of the
13
  state. So that's a case where the boundary of the state will
14
15
  affect the compactness, but neither CDs 1 or 12 are affected
  appreciably by the boundary of the state, 12 not at all.
16
17
        All right. And then just to close this off, on CD 12, how
   did that do with respect to or respect for local political
  subdivisions and VTDs?
19
20
        CD 12 in both the benchmark map and in the Rucho-Lewis map
  divided six counties, and I think it divided the same number of
21
  cities and towns, which is about, I think, 13.
22
        All right. Now you -- I believe the second thing you
23
  looked at or -- was the number -- you were examining the
   question of whether race predominated in the changes in these
25
```

districts, correct? 1 2 Correct. 3 So how did the black -- how many majority-black congressional districts were there under the benchmark map? Under the benchmark map, there were no districts in which 5 blacks were a majority of the black voting-age population. 6 7 What was the black voting-age population in CD 1? The racial composition of districts is recorded on page 8 8 9 of my report. CD 1, 48.6 percent of the voting-age population was black and CD 1 under the benchmark. Now, we've had some discussion about how the census 11 12 measures who is African-American for the purposes of these calculations and who is not. Can you explain the different 13 census categories of reporting your ethnicity, how does that 14 15 work under the census? Census asks two questions on the enumeration form. 16 Ιt asks your race, and it asks your ethnicity. Race is are you 17 white, black, Asian, native American, or Pacific Islander, multi-races or other. You can check any number of boxes. You 19 can check black and move on, or you can check I'm black and I'm 20 Asian, or you can check multi and black. So you can check any 21 number -- the census allows you to check any number of boxes. 22 So just focusing on that, if they check just black, then 23 how is that number reported in the census totals? That person would be counted as black. 25

- Q Okay. And then if they check black and in combination with some other, say, black and Asian, how is that number reported?
- 4 A Census will create a separate count of people who counted 5 as black and Asian. They'll generate all the different counts.
- 6 Q Is that the any part black?
- 7 A So "any part black" would be the sum of all people who 8 identified black alone or black and anything else.
- 9 Q So that would be totaling up both categories?
- 10 A Correct.
- 11 Q Okay. Which is the number that the Department of Justice 12 uses in calculating preclearance and other matters under the
- 13 Voting Rights Act?
- 14 A Based on my experiences in Texas where we had to deal with
- 15 the preclearance question, they used any part black, that is,
- 16 anybody who checked black alone or black in combination with
- 17 some other race or black and multi-race.
- 18 Q Okay. So when we're talking about BVAP or the black
- 19 voting-age population, we're talking about any part black, is
- 20 that correct?
- 21 A Correct.
- 22 Q Is that unusual -- is that typical in your field to use
- 23 that number for that purchase?
- 24 A Yes.
- 25 Q Thank you. Now, we also heard -- yesterday, we heard some

```
discussion about ethnicity. So how does -- does the census ask
 1
  about ethnicity as well?
 2
        Yes, the ethnicity question is simply "Are you Hispanic?"
 3
        Okay. And is that reported separately?
 4
 5
        Yes.
 6
        So it doesn't have anything to do with the BVAP numbers?
 7
        Correct.
        All right. So I think you said a moment ago the black
 8
  \parallelvoting-age population for CD 1 was 48.6 percent, is that
  correct?
10
11
        Correct.
12
        Under the benchmark plan?
  Α
13
        Yes.
        How about CD 12? What was, under the benchmark plan, the
14
15 | black voting-age population of CD 12?
16
  lΑ
        43.8.
17
        Okay. So neither district was a majority-minority
18
   district?
19
        Correct.
20
             MR. FARR: Objection to the form.
21
              JUDGE OSTEEN:
                            I'll overrule.
  BY MR. HAMILTON:
22
23
        What's more important for the purposes of this analysis,
  black voting-age population or total black population
25
   regarding -- regardless of whether it's voting-age or not?
```

- 1 A Usually, we look at black voting-age population because 2 that's a measure closer to the size of the electorate.
- $3 \parallel Q$ All right. At the time of the -- at the time the
- 4 Rucho-Lewis plan was adopted, who were the two incumbent
- 5 representatives in these two congressional districts?
- 6 A In CD 1 it was G.K. Butterfield and CD 12 Mel Watt.
- 7 Q And do you know their race?
- 8 A Both are African-American.
- 9 Q So do you know whether the African-American community was
- 10 able to elect a candidate of choice in CD 1 under the benchmark
- 11 plan?
- 12 A Under the benchmark plan, Butterfield won every election.
- 13 Q So the answer is yes?
- 14 A Yes.
- 15 Q And how about in CD 12? Under the benchmark plan, was the
- 16 African-American community able to elect their candidate of
- 17 choice under the benchmark plan in CD 12?
- 18 A In CD 12, the African-American community was able to elect
- 19 Mel Watt.
- 20 Q And for how long was that true? When we look back over
- 21 | historical elections, how long had the African-American
- 22 community been able to elect their candidate of choice in each
- 23 of these two congressional districts?
- 24 A CD 12, I believe, going back to the origin of the
- 25 district. I'm not sure how far back CD 1 goes.

```
1
        Fair to say at least 10 years?
 2
        Yes.
 3
        In the last decade, has the African-American community's
   candidate of choice ever been defeated in any election in
   either of these two CDs?
 6
        No.
 7
        So if we were just to look at historical elections alone,
   is there any evidence that the white voters in either CD 1 or
 9
   CD 12 have voted as a bloc to defeat the candidate of choice of
   the African-American community in either district?
             MR. FARR:
                        Objection, Your Honor. There's no
11
12
   evidence that whites were in the majority in either one of
   these districts. He's asking the professor an impossible
13
   question.
14
             MR. HAMILTON:
                            May I respond, Your Honor?
15
16
             JUDGE OSTEEN:
                            Yes.
17
             MR. HAMILTON: I'm not, and I actually didn't suggest
   that whites were in the majority at all. The question was is
  there any evidence that the white voters, however many of them
19
   there might have been in either district, have voted as a bloc
20
  to defeat the candidate of choice in either of these districts.
21
22
             MR. FARR: Well, if they voted as a bloc, they
   couldn't seat them because they weren't in the majority.
23
24
             MR. HAMILTON: With all due respect, Your Honor, of
   course they could. You don't need to be a numerical majority
25
```

```
in order to defeat the candidate of choice. You simply form a
 1
 2
   coalition of conservative members of -- October 14, 2015.
 3
   October 14, 2015.
             JUDGE OSTEEN:
                            Well, there are a number of
 4
   assumptions in the question, and I don't know how long we've
 5
  had a CD 1 and a CD 12 when we're talking about historical
 6
   information. I understand there's -- CD 1 and 12 are at issue
 7
  and as they are currently -- at least roughly as they currently
 8
   exist were created back in the '90s, but there may have been at
 9
   least a CD 1 prior to that time that's not at issue in this
10
   case. The historical part of the question brings up a lengthy
11
12
   history, number one; and number two, it seems to me, that --
13
   let me ask before I say anything else.
             JUDGE OSTEEN: All right. I'm going to let you
14
   rephrase the question to make it a little bit clearer in terms
15
  of the -- at least the timeline of what you're inquiring about.
16
   Number two, with that clarification, Mr. Farr, I'm going to
17
18
   overrule the objection and simply note that to the extent there
  are a number of assumptions that may be underlying any response
19
   that's given, those can be cleared up on cross-examination, and
20
   we're a panel who's capable of sorting that out.
21
22
             MR. FARR: Thank you, Your Honor. I think that's
   very wise.
23
                            You may proceed.
24
             JUDGE OSTEEN:
25
             MR. HAMILTON:
                            Thank you, Your Honor.
```

25

BY MR. HAMILTON: 1 2 Okay. So let me rephrase the question. Looking just at 3 the last 10 years of election data, the basic configuration of CD 1 and CD 12, in that configuration, is there any evidence that white voters in either of these two districts, CD 1 or CD 12, have voted as a bloc to defeat the candidate of choice 6 7 of the African-American community during that time frame? MR. FARR: Your Honor, I know you're going to 8 overrule this, but I'm objecting to the question again. 9 10 JUDGE OSTEEN: I note the objection. You may answer. THE WITNESS: So the evidence, as I see, it is that 11 12 the white community, however they voted, were not sufficient to defeat the African-American candidate. So for both districts 13 over the past decade, the African-American candidate and the 14 African-American community were able to elect their candidate 15 regardless of what the white vote was, how cohesive it was, or 16 not. I wasn't asked to do a racially polarized analysis in 17 18 this case, so I have no information about how cohesive the whites were in this area or not. 19 BY MR. HAMILTON: 20 Thank you. So what happened to the black 21 Okay. voting-age population in these two congressional districts 22 under the Rucho-Lewis map, increase, decrease, stay the same? 23

in both districts increased.

Under the Rucho-Lewis map, the black voting-age population

- 1 Q To what?
- 2 A The black voting-age population of CD 1 increased to
- 3 52.7 percent, and the black voting-age population of CD 12
- 4 increased to 50.7 percent.
- 5 Q So in CD 1, the black voting-age population went from 48.6
- 6 percent BVAP to 52.7 percent BVAP, is that correct?
- 7 A That's correct.
- 8 Q And in CD 12, it went from 43.8 to 50.7 percent black
- 9 voting-age population, is that correct?
- 10 A That's correct.
- 11 Q All right. Now, you examined the question of whether race
- 12 predominated in the drawing of these two districts, and you
- 13 conducted two different types of analysis. One I think you
- 14 referred to as the envelope analysis, and another was movement
- 15 of VTDs in and out, is that right?
- 16 A Correct.
- 17 Q So let's start with the envelope analysis. Can you
- 18 explain to the Court what that is and how you went about doing
- 19 | it.
- 20 A So the idea is the whole map isn't at issue here, just two
- 21 districts; and in doing an analysis, I would have to focus on
- 22 the areas within the state where those districts are located.
- 23 It couldn't be configured anywhere in the state, so the areas
- 24 in the state where those districts are located. Based on
- 25 traditional districting principles, the idea that you keep

- counties whole to the extent possible, counties make sense as 2 the initial cut at where those districts are located. What are the counties in which those districts take part or all of the 3 county? Then ask the question what percent of the population from those counties was put into the districts and what percent 6 of the black population and the white population were put into those districts? 7 Is this the first time you've done this kind of analysis? 8 9 I did something similar in the Virginia case. 10 And which Virginia case was that? The Virginia House delegates case Bethune-Hill versus 11 State Board of Elections. 13 Is that the case that's pending in the Eastern District United States District Court for the Eastern District of Virginia right now? 15 16 Yes. 17 Did Dr. Hofeller also testify in that case? 18 Α Yes. Thank you. Now, your second analysis examines the VTDs 19 that were moved in and out of the districts and their composition, is that right? 21 Correct. 22
- 23 Q And why did you examine that?
- 24 A So another way to think about the area that the districts
- 25 were located is to consider every Voting Tabulation District,

```
which is analogous to a precinct, that the state legislature
  considered part of the district in either the old map or the
 2
   new map and then look at just those very narrowly contained
 3
           So one can think about the envelope of counties as kind
   areas.
   of a less restrictive definition of the location of the
 6
   districts and the VTDs as the more -- a very restrictive
   definition of the districts.
 7
        And if the changes in the district lines were unrelated to
 8
   race, what would you expect to see with respect to the VTDs?
        I would expect to see that the changes in the district
10
  lines wouldn't -- that the VTDs -- the inclusion of district's
11
12
   VTDs or the exclusion of VTDs wouldn't fall on racial lines,
  that the percent of the black registered or black voting-age
13
  population was brought in was about the same as the black
14
  population that was taken out.
        All right. Have you seen this sort of analysis done in
16
   other lawsuits or litigation over redistricting?
18
        I did this in the Bethune-Hill versus State Board of
  Elections case. Michael McDonald did that -- a similar
19
   analysis in Page -- in the Page case, which is a congressional
20
  case in Virginia. My colleague Gary King did similar analysis
21
   in the Arizona congressional case.
22
23
        Okay. And you applied both of these types of analyses to
   the two districts at issue in this litigation?
25
        Yes.
```

So let's start with CD 1. What did the envelope analysis 1 show with respect to North Carolina's 1st Congressional District under the Rucho-Lewis map. 3 With respect to CD 1, this analysis is contained on -starting on page 9, but mostly on 10. Page 9 is just the header. What it showed is that white registered voters were 6 twice as likely to be -- I'm sorry -- black registered voters 7 were twice as likely to be put in these districts as white 9 registered voters in CD 1. Did you summarize your analysis in a table in your report? 10 Table 3 in my report shows that. 11 12 And where can the Court find that, what page? 13 Page 24. Okay. So let's take a look at that. Can you walk us 14 through this table and what it's showing us first with respect to CD 1? 16 So the top panel corresponds to CD 1 and the rows 17 correspond to the different groups. One is the total registered population in that area, the second row is the white 19 registered population, and the third is the black registered 20 There are in this area a little under a million 21 population. people in the counties where CD 1 is located. Of those, about 22 half of that million people -- those million registered people 23 ended up in the district, CD 1. 24

And then what does the second and third line in that top

```
half show?
 2
        The second line is the white registered. There are about
 3
   500,000 white registered voters in this area, and about a third
   of them, 35.7 percent, ended up in CD 1; and there are about
  350,000 black registered voters, and 72 percent ended up in CD
  1. So blacks were twice as likely as whites in this area to
 6
   end up in CD 1.
 7
        Okay. And you did the same analysis with respect to
 8
  CD 12?
 9
        I did.
10
  lΑ
        And what did that show?
11
12
        In that area, the CD -- the population in the county was
  much larger, about 1 1/2 million people, and about a third --
  about 30 percent of those people ended up -- the registered
14
  people ended up in CD 1. Of that 1 1/2 million, slightly under
  a million were white. Only 16 percent of those whites ended up
16
   in CD 1. About 400,000 were black, and 64 percent, almost
17
   two-thirds ended up in CD 1.
        And so how did those two numbers compare to each other?
19
   How much more likely is it that an African-American registered
  voter would have ended up in CD 12 than white registered voter?
21
        Four times more likely.
22
        And what is the pattern that this shows when looking at
23
  these two districts from this envelope analysis?
```

This indicated to me -- again, I'm sort of coming in at a

high level and digging deeper. This indicated to me that there was a lot of racial sorting going on, that race was being --2 people -- black people were put in these districts, white 3 people were not put in these districts. Okay. Now, you also described the VTD analysis. Did you 5 6 summarize that analysis somewhere in your report? 7 Voting Tabulation District analysis is shown in Table 4. Okay. Can you -- maybe we start with the conclusion and 8 then walk us through how you got there. What did you find as a result of the Voting Tabulation District movement analysis with respect to CD 1? 11 12 With respect to CD 1, I found that blacks were about twice as likely to be moved into the districts as moved out. 13 other words, the rate at which you were moving in blacks was 14 almost double the rate in which you were moving them out. 15 And can you tell us -- walk us through Table 4 on 16 Okay. page 25 of Exhibit 17, your initial report. 18 Okay. So the idea is that if I have a district, I have a set of Voting Tabulation Districts that were in the benchmark 19 and in the Rucho-Lewis map. Some of those districts -- some of those Voting Tabulation Districts remained in CD 1 under both 21 That we call the core. Some of those districts --22 maps. Voting Tabulation Districts were moved out, and some of those 23 were moved in. Some of those weren't in the -- in other words, 24 25 some of them weren't in the benchmark now were moved into the

5

6

7

12

13

1 map. Those are moved into the district. Some of them were in 2 the benchmark and were moved out.

In the core, the percent black of the registered voters was 56 percent, and the percent white was 37 percent. The remainder were Hispanics and Asians.

The area moved -- the areas moved in -- Voting

Tabulation Districts moved in had a black percent of 48 percent

and a white percent of 37 percent. The areas moved out had a

black percent of 27 percent and a white percent of

66.7 percent. So just comparing the areas moved in and the

areas moved out, areas with higher black density were moved in

and areas of higher white density were moved out.

- Q So, again, the pattern you're seeing here?
- 14 A Again, dividing the -- sort of -- kind of sorting along 15 racial lines.
- Q All right. And then what did your analysis show with respect to the VTDs moved in and out of CD 12?
- 18 A In CD 12, the core was about 54 percent African-American 19 and 32 percent white. The areas moved into the district were
- 20 44 percent African-American, and the areas moved out were
- 21 23 percent African-American. So it was about, again like CD 1,
- 22 twice as likely to move -- the area moved in had two times
- 23 higher density of African-Americans than the areas moved out.
- 24 The areas moved into the district had a white percent of
- 25 37 percent, and the areas moved out had a white percent of

```
So almost exactly the same pattern as we saw in
   64 percent.
 2
   CD 1.
 3
        Okay. And is that consistent with the findings that you
   found under the envelope analysis?
        Yes, very similar pattern. So this suggests to me that
  the conclusions I reach here are not a matter of how I defined
 6
 7
   the location of the area. I can take the broad definition of
  the counties in which the districts are located, or I can take
   the narrow definition of the areas moved in and out of the
   district and reaching essentially the same conclusion.
        Did you prepare maps showing your analysis?
11
12
        Yes, the next step was really to look at, okay, what's
  happening at the boundaries. I've got increased compact --
  decreased compactness, county splits. How are those splits
14
  corresponding to the racial density in the areas?
16
        Okay.
17
        So the maps I've prepared examine the boundaries of the
   districts under the benchmark map and under the Rucho-Lewis map
  in -- around the areas included under the old plan and then
19
   taken out under the new plan.
20
21
             MR. HAMILTON: Your Honors, may counsel approach the
   bench for a moment to discuss an issue?
22
23
             JUDGE OSTEEN:
                            You may.
              (Bench conference as follows:)
24
25
             MR. HAMILTON: I have a migraine starting that is
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starting to affect my vision. It's not a big deal.
  need to take a couple of Advil, and then I can continue.
 2
                                                              It's
  not a problem. I don't think it's going to be a problem.
 3
  I'm not able to read, it will be, but I don't think that's
   going to be an issue.
 5
 6
             JUDGE OSTEEN: All right.
 7
             MR. HAMILTON: It's just a little swirly thing right
   in the middle --
 8
 9
             MR. FARR: Same thing happened to me, Your Honor, so
   we certainly would support taking a break.
10
             MR. HAMILTON: I don't need --
11
12
             JUDGE OSTEEN: Let's take 10 minutes, take your meds,
13
   and we'll see where you are, and let Ms. Powell know.
             MR. HAMILTON: I'm sure I'll be fine. Thank you so
14
  much.
15
             (Bench conference concluded.)
16
17
             JUDGE OSTEEN: We'll be at ease for 10 minutes.
18
             (At 9:57 a.m., break taken.)
             (At 10:13 a.m., break concluded.)
19
20
             JUDGE OSTEEN: All right. Mr. Hamilton, you may
21
   continue.
22
             MR. HAMILTON: Thank you, Your Honor.
  BY MR. HAMILTON:
23
24
        Dr. Ansolabehere, I think we had just turned to the maps
   that you had prepared, is that correct?
25
```

1 Correct. 2 Okay. So those are located in Exhibit 17, page 26, map 3 one and map two. So maybe -- we've got map one up on the screen. Can you walk us through these maps and what they show. So I prepared eight maps. Maps one and two correspond to 5 CD 1, and they just focus in on one part of the boundary, the 6 7 eastern boundary of CD 1 in the area of Gates County, Chowan County, Perquimans County, and Pasquotank. This shows the boundary of CD 1 under the benchmark, and the green border is the CD boundary, and the black borders are the county boundaries. The shading area represents the density of black 11 12 population in the areas and the lighter the area, the lower the black population; the darker the higher, the higher the black 13 population. 14 15 All right. So map one is the -- is this portion of the boundary of the 1st Congressional District under the benchmark 17 plan. 18 Α Correct. And then what is map two? 19 Map two shows this portion of the boundary under the 20 21 Rucho-Lewis map. I focused on this area because this was an area where there were four additional county splits. 22 Originally -- none of the counties over here, Gates, 23 Pasquotank, Perquimans, or Chowan were split under the benchmark, but here is an area where we have four county 25

splits. I wanted to look more closely at why the counties were split and how the splits occurred.

- Q And what does that show?
- A What that shows is that -- the red line is the new district boundary for CD 1 in this area, and it shows -- it indicates to me that the areas included in CD 1 in the county splits had much higher black density than the areas excluded from the county splits.

In particular, in Chowan County, there are two Voting Tabulation Districts on the northern part of the county that have higher white density, and one on the southern part of the county that has a higher white density, and the three Voting Tabulation Districts in the county that had the highest black density are the ones that are included in CD 1.

As the district moves from Chowan into Pasquotank, you see the same pattern. The lighter shaded areas are excluded from the district. The darker shaded areas are the ones that are included.

Then as we move into Pasquotank, the district extends and grabs the city of Elizabeth, I think that is, and it's got a heavily African-American center to it. That's included in the district. The lighter shaded Voting Tabulation Districts on the southern part of the county are cut out, and a portion of the Voting Tabulation District on the north that's darker is included, and that's a VTD that's actually split.

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18

Then finally in Gates County, the center of Gates

County has those kind of arms sticking up, those areas with the higher black population in the county, and the areas with the lower black population are excluded.

- Q So as we flip back and forth between these maps, we can see the difference in where the lines are as they change between the benchmark and the enacted map?
- 8 A Correct, and it's the same black population data in both
 9 maps. The only thing different between the maps is the line of
 10 the district.
 - Q Okay. And if we look at -- let's go back one map to the map one. The green line is the existing boundary. That's the sort of green line that goes from the roughly middle of the top of the page down towards -- sloping towards the right?
 - A Correct, the top of the -- the top is the boundary of the state. It's the boundary of North Carolina. Then between Gates County and Camden County at the very top is where the district starts, and it just cuts along the county boundary.
- The squiggly line that would look non-compact, that degree of non-compactness is due to the county boundary.
- Q Okay. And then we flip forward to the next map. The red line shows in the enacted plan what happened to that green line and where it moved?
- A Correct. The beginning of the district along the northern boundary of the state starts all the way on the other side of

Gates County and cuts along the Gates County boundary on the 1 west, cuts into Gates County, grabs that black population, 2 continues down on --3 So maybe I could just interrupt you for a second. So it goes around that one white pocket there. To avoid it, it goes 5 down below that, and then comes back up north? 6 7 Correct. And then it describes what looks to me like kind of a 8 horse head as it moves around, and that's all greater density African-American community? Correct. And then it dives down south along the western 11 border of Chowan County, and Chowan was entirely in the district before. It swings around the Voting Tabulation 13 District that's very lightly shaded. That means it's got a high non-African-American population. It then cuts around top of those VTDs to include the higher density Voting Tabulation 16 District African-Americans. 17 18 All right. So in looking at this map, is it consistent with your envelope and VTD analysis or inconsistent? 19 20 Completely consistent. It's sort of a nice demonstration 21 of the Voting Tabulation District analysis. The Voting Tabulation Districts kept in the core would be the portion of 22 Gates that is highly African-American compared to the rest of 23 the county, and the portion taken out would be those Voting

Tabulation Districts that are moved into District 3.

25 | time.

Similarly, down in Chowan County, the very white VTD there would be a VTD moved out, high white, compared to the VTDs moved that were kept in the core which is high African-American 3 percentage. All right. Let's switch gears and turn to the 12th 5 6 Congressional District. You did the same series of analyses 7 you did 12 Congressional District as you did for CD 1, correct? Correct. 8 Α 9 So what did the envelope analysis show with respect to CD 12. 10 CD 12 recalled the envelope analysis showed the black 11 12 registered voters in the county were four times more likely 13 than the white registered voters to be placed in CD 12 in the counties. 14 15 And is that information collected on your Table 3? 16 already looked at Table 3 with respect to this. 17 Correct. 18 And you also looked at the VTD splits with respect to CD 12? 19 I did. 20 Α 21 0 And what did that analysis show? The splits or the --22 Α 23 The VTDs. I'm moving through this because I think we already covered this when we looked at the tables the first

1 Okay. 2 So CD 12? 3 CD 12 in Table 4 shows the composition of the core, the area -- the VTDs moved in and the VTDs moved out. All right. And did you prepare similar maps for CD 12 as 5 you did for CD 1? 6 7 I did. Okay. Let's take a look at those. Is that Map 3 on 8 page 28 of Exhibit 17? 10 Yes. 11 Okay. 12 Map 3 shows the Mecklenburg County area, Charlotte is in the center, and this is the map as it was configured under the 2001 to 2011 districts. 15 So same display here? The darker the coloration, that means a greater concentration of African-Americans. And a lighter coloration means a lower concentration of African-Americans? 19 lΑ Correct. 20 And then what is Map 4? 21 **||** A Map 4 is the corresponding area for the Rucho-Lewis map. 22 And what does this show us? 23 Again, it's the same data for racial composition and Voting Tabulation Districts. The red line corresponds to the district boundaries in this map compared to the green line in

- the prior map, Map 3, which would be the district boundaries
 under the benchmark.

 Q So if we go back and forth between these two maps, we can
- see the change from the benchmark to the enacted plan at least with respect to this portion of CD 12?
- 6 A Correct.
- Q And what does it show us? What's the conclusion that you draw from this?
- 9 So if we -- the area of Mecklenburg County was already pretty divided along racial lines, and CD 8 took a fairly white portion of the county in the south. The reconfiguration of 12 District 12 divided Mecklenburg County into just CDs 9 and 12. CD 9 comes in from the north here. So up in the north, it's 13 coming down, and then it wraps around Charlotte all the way 14 15 around and then grabs the area that was in CD 8 before but also changes the boundary down in the southern part. So you can see that the red arm cuts into Charlotte, and it just snakes in. 17 It really follows the density of African-Americans in this
- area. So the whiter areas are put at 9 and the blacker VTDs are put in 12.
- 21 Q And what is the pattern you're seeing here?
- A Again, this seems to be sort of dividing the VTDs or sorting the VTDs along percent black versus percent white.
- Q Okay. So what is Map 5 and 6 in your report? I believe they're contained on page 30 and 31 of Exhibit 17.

Correct.

Maps 5 and 6 move up to Forsyth County area. So it shows 1 2 CD 12 in the Forsyth County area under, in the case of Map 5, 3 the benchmark map and, in the case of Map 6, under the Rucho-Lewis map. So, again, as we flip back and forth, we can see how these changed and what is the change that you observed? 6 7 So under the benchmark map, the green line -- could you go back to the benchmark map, please, Stacy? You see the green 9 line for CD 12 captures the center of the county, and it's got very dense African-American area in the middle, spreads out, but it includes some of the less densely African-American 12 populated VTDs as well. There's some division along racial lines already; but as we move to the next map, the boundary has 13 changed to really contract and really follow the lines of the 14 higher African-American VTDs in the center of the city. And, again, what's the pattern that you're seeing here 16 between the --17 18 Again, it's really following the -- seems to be following the areas with higher African-American Voting Tabulation District are kept in CD 12, and the areas that have whiter populations are put out. 21 All right. And then Map 7 and 8, can you describe --22 Map 7 and 8 move over to Guilford County. 23 24 So Map 7 is the benchmark mark, 8 is the enacted plan?

population as well.

- And can you describe for us briefly what you conclude from 1 these two maps? 2 3 Briefly, what I conclude from these maps is that the reconfiguration of CD 12 in the Guilford County area took out the whiter part of the Greensboro area, especially the northwestern corner of the city, and kept in the more heavily 6 African-American areas in the south and east of the city. 7 also the reconfiguration in the connection of the -- this part of the district to the rest of the district followed more heavily African-American VTDs. So the connective tissue between the cities was following the African-American 11
- 13 And, again, what's the pattern you're seeing here?
- Again, I'm seeing that the VTDs moved out because they 14 reconfigured the lines at higher white proportions relative to the areas that were kept in or moved in. 16
- 17 Thank you. Now, I'm going to change gears here a little bit. Did you consider the possibility that it was politics that drove these maps, not race, that this was all about 19 politics? Did you consider that? 20
- 21 Yes.

- And how did you go about doing that? 22
- So if I approached it considering the political versus 23 racial question was to see if party registration information 25 was a better predicator of which VTDs are included in these

```
districts and the populations included in the districts or
 2
   whether racial information, and I relied on voter registration
   data as that information is presented by the state and on the
 3
   General Assembly's website at the -- and that information is
   individual-level information. It tells me how many people
   consider themselves black and Democrat, Republican and
 6
   Democrat, undeclared status and Democrat, black -- white and
 7
  Democrat, white and Republican, and white and undeclared.
 8
 9
        And if you don't have individual information down to the
   individual voter, then how do you determine -- you know,
   obviously you can't ask the people how they voted, so how do
11
12
  you determine how blacks and whites vote? How does a social
   scientist approach that question?
13
        You look at the relationship across Voting Tabulation
14
15
  Districts between the percent black and the -- or percent white
  and the vote for a specific candidate.
16
17
        Is there a name for that kind of analysis?
18
        That would be -- one form of that analysis is racially
  polarized voting analysis, also an ecological regression
19
   analysis or an ecological --
20
21
             THE REPORTER: I'm sorry, can you repeat that.
22
             THE WITNESS: Another form would be an ecological
   regression analysis and also an ecological inference analysis.
23
   BY MR. HAMILTON:
24
               Is the individual voter level information
25
        Okay.
```

preferable or less preferable to a social scientist in examining these electoral behavioral questions? 2 Individual level data is almost always preferable. 3 But there's this question that's been raised about Okay. 5 the Cromartie decision and whether or not the registration information is aligned with actual voter behavior. Did you 6 7 take that into account, sir? I did. 8 9 And how did you -- did you determine in these congressional districts in North Carolina whether voter registration aligned with actual voter behavior not to 11 12 de-validate the use of registration information? 13 We don't know how individuals voted, right. Unlike the registration data where there's an explicit statement of what 15 my party preference is, I don't know how anybody voted. stepped back and took the same approach I would take if I only 16 had data aggregated to the voting tabulation data level, and I 17 looked at the correlation between the percent registered Democrat and the percent vote for candidates -- Democratic 19 candidates and specific races percent Republican and so forth. 20 21 I also looked at that same relationship for percent registered as black, percent registered as white, and its 22 23 relationship to the vote for candidates. Also, the relationship between black voting-age population, because

normally what you would do in the absence of registration data,

such as North Carolina collects -- just as an aside, only nine states have race on the voter files. So you can't normally do such analysis. In the absence of that data, you'd look at the relationship between black voting-age population at the voting tabulation level and its correlation with a relationship to electoral results.

So I looked at a range of these analyses, and we normally look at such data in doing election analyses, say for the Election Decision Desk and academic research.

- Q Not unusual to use that kind of data if you've got it.
- 11 A If you've got it. Again, it rarely exists.
- 12 Q And were you able to identify correlation or validate the use of voter registration information in this instance?
- 14 A Yes.

7

8

9

10

24

25

- 15 Q And how close was that correlation?
- It was very high, varied somewhat across races. 16 racial data, so black registration and white registration, I 17 18 found that black registered voters -- percent black registered voter in the Voting Tabulation District correlated about --19 over .9, I think it was .92, with the fraction who voted for 20 Obama in 2008, and white registration -- in the area of CD 12, 21 the white registration correlated .9 -- negative .93 with vote 22 So the higher the racial registration in a Voting 23 for Obama.
 - I also did that analysis in CD 1. I think the

Tabulation District, the higher the vote for Obama.

correlation was more on the order of .82 to .85, somewhere in that area, and I did it state-wide, and state-wide I found that the correlation between racial registration and the vote for Obama was actually much lower than in these two areas.

Q Okay.

A So that's one example of the sort of analysis that I did to confirm that the registration data was a pretty good indicator of voting behavior.

I also looked at the black voting-age population to see whether I'd prefer to do a more conventional analysis using black voting-age population and found that the black voting-age population correlated much more weakly with the Obama vote so that the black registration was actually a much better indicator of voting behavior than the black voting-age population was. So the correlations, I think, were on the order of like .5 to .6 as opposed to .8 and .9.

Q Let's start with your envelope analysis. What did your envelope analysis show with respect to CD 1 and CD 12 with respect to whether politics or race more powerfully explains how they were drawn?

A Generally, it showed that racial -- race was a much more powerful factor in understanding which areas -- which voters in the area of these counties was included in the districts than party was.

Q So is this Table 5 of your report?

```
Table 5 presents the envelope analysis for CD 1.
 1
 2
        Okay. Can you walk us through Table 5. It's page 34 of
 3
   Exhibit 17?
        So what Table 5 does is it takes all the black -- all the
   Democratic registrants, all the Republican registrants, and all
   the Independent registrants and groups them and then examines
 6
 7
   the white Democrats and the black Democrats and the percentage
  of white Democrats included in the district and a percentage of
   black Democrats included in the district. Then for
  Republicans, it calculates percentage of white Republicans
   included in the district and the percentage of black
11
12
   Republicans included in the district, the percentage for
   undeclared -- of white undeclared who were included in the
13
   district -- and, again, these are anybody in these counties --
14
15
   and the percent of black undeclared who were included in the
  district.
16
17
        And what did that analysis show?
18
        That analysis showed that inside every partisan group,
  blacks were about twice as likely to be included in this
   district as whites; that is, if I look at the first row -- or
20
21
  first cluster, or group, of Democrats, 72 percent of the black
  Democrats were put in this district. So 72 percent of black
22
   Democrats who lived in these counties, these 23 or so counties,
23
  were included in CD 1 compared to 42 percent of the white
   Democrats.
25
```

But then when I turn to the Republicans, I find that 69 percent of black Republicans -- and they're not as common as white Republicans -- if you're a black Republican, you had a 69 percent chance of being put in this district compared to 30 percent white Republicans.

Then when we turn to undeclared, 68 percent of black undeclared were put in these districts compared to 35 percent of white undeclared.

Notice black Democrats, black Republicans, and black undeclareds had almost exactly the same chance of being put in these districts, about 70 percent, compared to white Democrats, white Republicans, and white undeclareds, and their range was about 30 to 40 percent. That's a very big difference within each partisan group.

Now, if I turn that around and look at the data another way and say, well, what if I compare the data in some different ways, I'm going to -- we'll get to that, but we're going to find that this is race -- the effect of race, the difference between racial groups controlling for party, and there are big differences, about 30 percentage points here. If I do it the other way and do party controlling for race, that is, a group by racial groups, I don't find any differences that are substantial.

Q Okay. So let's turn to the next table, Table 6, in your report. Can you describe what this table is telling us.

Table 6 shows the same analysis using the same data but 1 under the Rucho-Lewis -- under the benchmark map. The first 2 table showed under the Rucho-Lewis map. So just a comparison, 3 how did it change from the benchmark to the Rucho-Lewis. Ι calculated the same data, and that's shown in Table 6. 5 6 And what did you conclude by comparing the two? 7 I concluded there were differences, but the differences -between the racial groups within each party group, but the 9 differences were much smaller. In the benchmark? 10 In the benchmark. 11 All right. How about CD 12? What did your analysis show 12 with respect to CD 12? Similar or a different pattern? My analysis showed a very similar pattern, even a little 14 bigger differences between the racial groups --When you say "bigger," bigger as compared to what? 16 17 Bigger racial differences within the party groups compared 18 to CD 1. Compared to CD 1, okay. So this is Table 7 of your 19 report, Exhibit 17? 20 21 Correct. Okay. Can you walk us through your analysis in Table 7 22 here, if you could. 23 So this table parallels Table 5 for the Rucho-Lewis map, 24

and it calculates for Democrats the percentage of black

Democrats included in the map, in the CD 12 map in -- among the counties in which that district was located and the percentage of white Democrats included in CD 12 from the counties in which 3 it was located. And what was the difference between white Democrats and 6 black Democrats in CD 12? 7 The difference about 47 percent. So 65 percent of black Democrats in these counties were included in CD 12 compared to 18 percent of white Democrats. And how about the difference between white and black 10 Republicans? 11 12 Similarly large, about 46 percent. So --Go ahead. 13 So 60 percent of black Democrats were included in this 14 district under the Rucho-Lewis map from these counties compared to 14 percent of white -- I'm sorry, black Republicans compared to 14 percent of --17 18 And then does Table 8 of your report show the same thing under the benchmark map? 19 20 It does. And can you explain how these two analyses compare? 21 Again, it's the same data, it's the same people. The 22 question is only whether the lines sorted them differently, and 23

in this case, 40 percent of the white Democrats were included

in CD 12 from these counties compared to 57 percent of the

black Democrats. That's a 17-point difference compared to a 47-point difference.

Looking at the Republicans, 20 percent of the white Republicans were included in the district compared to 52 percent or 53 percent of the black Republicans and so forth. Again, these differences show differences that the existing district did have some degree of sorting across racial lines, but that sorting increased because as you go back and compare, say, white Democrats versus black Democrats, the white Democrats dropped from 40 percent to 18 percent and the black Democrats increased from 57 percent to 65 percent.

The white Republicans decreased from 20 percent to 14 percent, the black Republicans increased from 53 percent included in the district to 60 percent included in the district. The white undeclareds decreased from 21 percent included in the district to 17 percent included in the district, and the black undeclareds increased from 50 percent included in the district to 60 percent included in the district. So the swapping of areas in and out, however it's done, VTDs, tracing along the segments, whatever they did, it had the effect of sorting along these racial lines.

- Q Did you summarize the results of your analyses in these tables we've been looking at in a final table here?
- 24 A Yeah. Table 9 just draws together the analyses in Tables
- 25 5, 6, 7 and 8, so you can compare side by side how the changes

```
occurred from the benchmark to the Rucho-Lewis map in CD 1 and
 2
  CD 12 for each of the parties and groups and each of the racial
   groups within those.
 3
        Now, if these two congressional districts had been drawn
   without regard to the race of voters but instead to pack
   Democrats into the two districts in order to advantage
 6
   Republicans elsewhere in the state, would you have expected the
 7
  analysis to look like this?
 8
 9
        I would have expected the analysis to look different.
   would have expected including more white Democrats.
  not have -- sorting the white Democrats into the district.
12
   would not -- I was very surprised to see the high percentage of
  black Republicans and black undeclareds included in the
13
   district, and so those two figures in particular surprised me.
14
15
        And are they consistent or inconsistent with an
  explanation that it was just politics here, we were just doing
16
   a political gerrymander to disadvantage Democrats?
17
18
        These are not consistent with a partisan gerrymander
  story, at least for these districts. I don't know anything
19
   about any of the other districts in the state.
20
        Now, you also looked at the movement of VTDs into and out
21
  of these two congressional districts controlling for party, is
  that right?
23
        Correct, so I did a parallel analysis controlling for
24
   party to what I did for the inclusion and exclusion of Voting
25
```

Tabulation Districts. 1 2 This is sort of the other way around, one controlled for race, now you're controlling for party? 3 Correct, and I did it both ways. One is I looked at party -- race given party, that's Table 10, and party given 5 race, that's Table 11. 6 Let's start with Table 10. Can you walk us through 7 that table and tell us what we're looking at here. 9 So as in Table 4, where I presented you with racial compositions of core of the district, the area moved in and the 10 area moved out, I am, for each of the partisan groups, 11 12 presenting the racial composition of the core in the areas moved in and out for CD 1 in the top panel and CD 12 in the 13 bottom panel. 14 15 If we look at the Democrats, we see that the core, that is the areas kept in the district from the prior version 16 of the map to the current version of the map, 70 percent of 17 18 those voters, those registered voters, of those registered Democrats, were African-American. Of the areas moved in to the 19 district, so the Democrats moved in, 66 percent were 20 21 African-American compared to 29 percent white. And of the areas moved out, these are just Democrats, 49 percent of the 22 population moved out were African-American, and 49 percent of 23

Now, the comparison to draw is between either the

the population moved out were white.

24

core in the area moved out or the area moved in and the area moved out. So think about the area moved out versus the area moved in because you're swapping populations here. The core versus the area moved out is a 22 point difference. That is the black population, black registered population among Democrats is 22 points higher for the area that was kept in versus the area that was moved out.

Comparing the area moved in, first the area moved out, now you're swapping, it was 18 points higher. The areas moved in had an 18 percentage point higher African-American concentration than the areas moved out, and that's among Democratic identifiers. Now, you can't get that answer any other way except by looking at registration data. You can't really look at election data and get down to that level of detail.

We see similar differences among Republicans, albeit smaller, and then among the undeclareds we see, again, similarly large differences, on the order of 20 percentage point differences between the areas informed in and the areas moved out and their African-American population.

- Q So what's the pattern that you're seeing here in CD 1 when you control for party and look at race?
- A Given party, there are big racial differences, very big racial differences in the areas moved in and the areas moved out, or the areas kept in and the areas moved out.

Q And if the objection is no, no, we only did this
for -- this was a political gerrymander without regard to race,
would you expect to see this?

A Possibly, but I'd want to turn it around and look at the effect of party, that is the differences between Democrats and Republicans percentages among racial groups to see if there were partisan differences given race. That would be more consistent with a partisan gerrymander.

This is probably not consistent with a party that's in gerrymander, but I really want to confirm it to see if there was any difference of party given race. This is race given party.

- 13 Q And what about CD 12, can you explain your analysis there.
 - A I did a similar analysis in CD -- in Table 10 for CD 12, and I found, again focusing on the Democrats, that among the Democrats kept in the core of the district, 80 percent were black and 15 percent were white, and the areas moved out were 46 percent black and 49 percent white. So even among the Democrats, the areas getting moved out are much wider than the areas getting kept in.

Similarly, if I looked at the areas moved into the district versus the areas moved out, I find that 68 percent of the Democrats moved into the district are white versus 46 percent moved out. So those differences are 34 percentage point difference in the concentration of African-Americans

6

7

8

9

10

11

```
among the area kept in the core versus the area moved out than
a 22 percent difference in the areas moved in versus the areas
moved out.
```

That's, interestingly enough, larger by a case of the core versus the area moved out by 10 percentage points, and CD -- our analysis for CD 1 among the Democrats. I looked at the Republicans and found similarly some noticeable differences there; and, again, differences in the area of 20 to 30 percentage points for the undeclareds.

- Q So did party have any appreciable effect on the likelihood of being included in either of these congressional districts?
- A So to analyze that, I turned the analysis around, and I found little or no partisan effect given what race you are.
- Q And is your analysis of that question summarized in your report?
- 16 A That's summarized in Table 11.
- Q Okay. Let's take a look at that. What's the difference between these two tables?
- 19 A The difference between these two tables is that rather 20 than cluster the people for the registrations among Democrats,
- 21 Republicans, and Independents, let's take a look at clustering
- 22 by blacks and whites and then look at partisan differences. So
- among whites, are there appreciable differences in the
- 24 Democratic percent moved in moved out, kept in moved out. And
- among blacks, are there appreciable differences in the

23

25

Democratic percentage of those kept in versus those moved out 1 and those moved in versus those moved out. 2 Okay. Can you walk us through Table 11. 3 So in Table 11, if I look just among -- let's start with If I look just at the blacks, the percent Democratic among the blacks kept in the core of table of CD 1 was 6 7 89 percent versus those moved out of CD 1, and that was also 89 percent. So there's no difference between the core and the 8 9 area moved out in the Democratic percentage among blacks. Similarly, if I look, there's no real difference between the areas moved into the district and the areas moved out, and the 11 12 party registration among blacks. If I look at whites, I see that 47 percent of the 13 whites identify as Democrats and who are kept in the core of CD 14 15 Those moved into the district are 45 percent Democratic. In other words, they're moving in to the district in an area that's slightly less Democratic than the area they're keeping 17 18 in and the area moved out is 41 percent Democratic. So the difference between the area kept in the core and the area moved 19 out is 6 percentage points. 20 21

Compare that to 22 percentage points in the previous analysis for the percent Democrat given that you're white.

This is the percent -- sorry, the percent white given that you're Democrat. This is the percent Democrat given that you're white. So there's very little difference in the areas

```
kept in versus kept -- moved out by the areas moved in versus
  moved out and the percent Democrats among whites or the percent
 2
   Democrat among blacks. That's given the race, there's very
 3
  little partisan difference observed in the registration
   statistics for CD 1 and substantial racial difference given
 5
   party for CD 1.
 6
        So what's that -- what's your conclusion at the end of
 7
   this analysis?
 8
 9
        For CD 1, my conclusion is that race was the predominant
  factor of a party in the configuration of CD 1.
10
        Does the same analysis hold true with respect to CD 12?
11
12
        The exact same conclusions are drawn with respect to
13
   CD 12. Again, we've walked through this previously, but I
  found large differences in race given party for CD 12, even
14
15
  larger than for CD 1, and then when I turned to the analysis of
  partisan differences given your race, I find little or no
16
   difference again in your party alignment given your race or
17
18
   your party registration given your race. Between those --
        So -- I'm sorry, continue.
19
20
        Between those kept in the core and those moved out or
21
  between those moved into the districts and those moved out.
        So if these two congressional districts had been drawn as
22
   partisan gerrymander without regard and not a racial
23
  gerrymander, would you expect to see this kind of a pattern?
24
25
        No.
```

- Now, what if the map drawer relied solely on the Obama 1 presidential 2008 election data for the purposes of trying to 2 3 draw a map to pack Democrats into these two districts? Did you examine that question? 5
 - I did.
- 6 And what did you conclude?
- 7 Well, I concluded several things. One is that the Obama vote was somewhat unusual compared to other partisan votes in 9 the area. It correlated less strongly with the party registration than, say, the governor in '08 or US Senate elections. So if I was to pick a vote to capture partisans, 11 12 that would have been the least good indicator, even in the 2008 election. 13
- State-wide, how closely correlated was the black 14 voting-age population and the Obama vote in 2008? 15
- I think it's .78 is the correlation. 16
- 17 Take a look at your reply report, that's Exhibit 18 on page 5. Is this where you talk about the correlation?
- This part talks about the correlation between black 19 registration and black voting-age population and Obama vote 20 rather than partisan registration. 21
- And what was the correlation there? 22 I see.
- The correlation between black registration and Obama vote 23 is about .8, and the correlation between black voting-age
- 25 population and Obama is about .6. So registration is strongly

```
related to voting behavior in this instance. It's especially
 2
  strongly related to voting behavior of blacks in the area
   around CDs 1 and CD 12.
 3
        All right. And is this data reflected in a table in your
 4
 5
  reply report?
        It is.
 6
 7
        And where is that? Is that Table 1?
        It is.
 8
  Α
 9
        That is Exhibit 18, page 18, Table 1?
        Correct.
10
  lΑ
        And this shows the correlation between black registration
11
12
  and the Obama vote?
        It does.
13
  Α
        And the correlation is .8?
14
  Q
15 A
        State-wide, yeah.
        Is there a typo in the body of your reply report
16
17
  somewhere?
18
  lΑ
        Oh, I think on page --
        Page 6?
19
20
        Page 6, Table -- paragraph 17, it's talking about black
21
  registration and it should -- the very last line should say the
  correlation between black registration and black -- and Obama
22
  vote is very high, not black voting-age population.
23
24
        So that's paragraph 17, page 6 of Exhibit 18?
25
        Correct.
```

- 1 Q But the correct data is reflected in the table that we 2 just looked at on Table 1?
 - A Yes.

- $4 \parallel Q$ Okay. I just wanted to make sure we pointed that out to
- 5 the Court so that there was no confusion on that. So let's
- 6 focus on CD 1 and CD 12. How closely correlated is black
- 7 voting-age population or black voter registration and the Obama
- 8 voted in those two congressional districts?
- 9 A In CD 1 black registration correlates .82 with the Obama
- 10 vote and white registration negative .87.
- 11 Q Is that a high correlation?
- 12 A That's a very high correlation.
- 13 Q Does that indicate whether the Obama '08 vote is a strong
- 14 indicator of the location of black registered voters in these
- 15 | two congressional districts?
- 16 A Yes. If I was trying to find black registered voters,
- 17 | that would be a pretty good indicator, if that was the goal.
- 18 Q And an extremely strong negative indicator of the location
- 19 of white registered voters, is that right?
- 20 A Correct, and stronger than voting-age population.
- 21 Q Would use of the Obama '08 vote to draw these districts
- 22 defeat or contradict your conclusion that race predominated?
- 23 A It would not -- it would not contradict my conclusion.
- 24 Q Why not?
- 25 A Well, there are a few things. One is that the Obama vote

is so highly correlated with black registration that my 1 analysis using black registration was totally consistent with 2 the Obama vote. Also, the Obama election in '08 in particular 3 was historic. It was the first black man running for major -from -- as the nominee of a major party for President of the United States, and I think that that's an unusual election. 6 7 There's huge academic literature on this topic that goes into the different patterns of voting and how Obama 8 changed it. So it would be an unusual election as a partisan 9 indicator, and it was -- it's a pretty substantial racial 10 component, not a bad racial component just like there were 11 12 people who wanted to vote for him just because it was the opportunity to vote for the first black man. 13 So you said a little earlier that you looked at the 14 15 correlation between Democratic vote share of party registration and the Obama vote, the governor in 2008 and the United States 16 Senate election in 2008. What was the correlation on those --17 of those three with respect to Democratic vote share? So do you want to direct me to something in the report 19 specific or --20 21 No. Do you have the numbers, the Democratic vote correlation with the Obama vote? I think you testified it was 22 .78, is that right? 23 24 Yeah, it's .78, and I think it's on page 11 of my report, 25 paragraph 31. This is the response report, so it's Exhibit 18,

```
1
  page 11.
 2
        Okay. And what was the -- what was the correlation for
   the governor in 2008?
 3
        It was .9.
        And for the United States Senate?
 6
        In 2008, .83.
 7
        So if you wanted to use election data for a partisan
  gerrymander, which of these three elections would have been the
  most useful?
 9
        I think governor of 2008 would have been a stronger
10
  indicator.
11
12
        And which would have been the least useful?
       Obama vote in '08.
13
        So you mentioned a minute ago that the Obama election was
14
  unique. What effect would that have had here?
        On this case, it turns out that the correlation between
16
  black registration and Obama vote is actually a little stronger
  than the correlation between party registration and Obama vote.
  Normally party registration is very highly correlated with
19
   voting behavior. It's kind of a conclusion of literature.
21
  When we can use it, we use that as a good predicator of voting
  behavior.
22
23
             It turns out that only half of the states have party
  registration in the United States so we can't use it to analyze
   all elections always, but in this case the black registered
25
```

black Republicans, for example?

- voter -- vote in '08 is even strong -- more strongly correlated
 with the Obama vote share than the party registration.

 And why might that be? I mean, would it have an effect on
- A You know, as I said, there were a lot of people who were excited about the opportunity to vote for a black person for the first time. Some of the research that's been done in this space has indicated that there were a lot of black Republicans,
 - Q And that might account for the lower correlation of Democratic vote share with the Obama vote?

black undeclared voters crossing over and so forth.

12 A Certainly.

10

- Q Okay. So let me just ask you a couple more questions and then I'll stop. If the map drawers had been concerned about future population growth and drew CD 1 with an eye toward minimizing future population disparities between the different congressional districts, wouldn't that explain the shape in demographics of CD 1?
- A So population growth might be a concern if you were -- CD 1 was underpopulated by 97,000, and one might think, you know, we've got a growth problem in some part of this district so we want to put higher growing areas in to compensate. That's a possibility.
- 24 Q And did you look at that analysis?
- 25 A I did look at that.

And where is that in your report? 1 2 In my response report I looked in Section D at the 3 question of whether the reconfiguration of CD 1, especially the inclusion of the parts of Durham could plausibly be explained from the data at hand as a function of population growth. there's no population growth data in the General Assembly 6 database, at least none that I saw, so instead I've looked at 7 whether or not the racial composition of the portions of Durham 8 County could explain why that part of Durham County was included. 10 And is your analysis summarized on Table 2? 11 12 It is. lΑ 13 And can you walk us through that quickly. So Table 2 presents the population of voting-age 14 population of registered voters in the city and county of Durham that were included in CD 1. Now, CD 1 didn't -- under 16 their benchmark map, didn't include Durham County. It reached 17 over to grab Durham County and parts of Durham County. About, I think, 160,000 people from Durham County were included in the 19 reconfiguration, so that's a big change. That's about 20 20 percent of the population of the new CD 1 came from this 21 reach of CD 1 over into Durham. So --22 23 Go ahead. -- of that, I think about 80 percent of that population is 24 black. They weren't grabbing white areas. They were grabbing 25

```
black areas and grabbing the urban areas.
 1
 2
   O
        In Durham?
 3
        In Durham.
        All right. The General Assembly needed to draw the
 4
   congressional map to achieve population equality. Doesn't that
 5
   explain the shape of CD 12 in just equalizing one person, one
 6
 7
   vote?
        I didn't find population equalization to be a compelling
 8
 9
   explanation for what happened with CD 12.
        How far off was CD 12 from the ideal population?
10
        CD 12 is only off by about 28 to 2900 people from the
11
12
  ideal population, so they just needed to move about 28 to 2900
13
  people to get the ideal population.
        And is that what the Rucho-Lewis map did, just move 28,
14
  2900 people and called it good?
        So if I looked at areas moved in and areas moved out, so
16
   if we just took the areas like what we were doing with Voting
17
   Tabulation Districts, and I counted up the population of the
  Voting Tabulation Districts moved out and the Voting Tabulation
19
   moved in, it was about 240,000 people were moved out and
20
21
  240,000 people were moved in, a hundred times more than was
  needed. That -- those facts alone convinced me that population
22
   equalization was not the primary motivation for reconfiguring
23
   CD 12.
24
```

All right. As a result of all of this analysis, Doctor,

```
you were able to come to a conclusion about whether race rather
  than politics predominated in the drawing of North Carolina's
 2
   1st and 12th Congressional Districts, is that right?
 3
        I did.
        And can you summarize your conclusion for us, please.
 5
        My summary is that race predominated in the configuration
 6
 7
   of CDs 1 and CD 12 over a party, that the consideration of the
  envelope of counties and population of those counties in which
 8
   those districts were located, and also the Voting Tabulation
 9
  Districts moved in and out can be only explained by race and
  not party. The party, given race, had little or no effect on a
11
12
   decision to include which Voting Tabulation Dis -- or the
   effect of the inclusion of the Voting Tabulation Districts.
13
                            Thank you, Doctor. No further
14
             MR. HAMILTON:
   questions.
15
                             Cross-examination?
16
             JUDGE OSTEEN:
17
             MR. FARR: Yes, Your Honor. May I give the witness a
18
   map notebook that we've used previously and also put our maps
   up on easels.
19
20
             JUDGE OSTEEN:
                            You may. Are you going to use the
   monitor?
21
             MR. FARR:
                        Sir?
22
             JUDGE OSTEEN: Are you going to be using the monitor?
23
             MR. FARR:
                        No, sir.
24
25
                            Mr. Speas and Mr. Hamilton, you all
             JUDGE OSTEEN:
```

```
can move around if you need to.
 1
 2
                          CROSS-EXAMINATION
 3
   BY MR. FARR:
        Good day, Dr. Ansolabehere. How was that?
 4
        Very close. Good job.
 5
 6
        In order to save everyone a lot of grief, would you mind
 7
  ||if I called you doctor during the course of your examination
  here?
 8
 9
        That's totally acceptable.
                Thanks very much. Now, Doctor, who engaged you in
10
        Right.
  this case?
11
12
        Mr. Hamilton.
                       The firm that Mr. Hamilton works with
  engaged me in this case.
        Okay. And have you worked in other cases with
14
15
  Mr. Hamilton's firm?
16
  lΑ
        I have.
17
        How many cases?
18
        I'd have to count them up. I worked with them in the
  Nevada case and the Virginia case and the Florida case.
19
20
        Are those all the redistricting cases that you've handled?
21
        No, I also worked on the San Antonio Water System versus
  Edwards Aquifer Authority. I forgot to list that one for the
22
23
   city of Antonio. In the Texas redistricting case I was
  retained by Mr. Hicks.
24
        How many cases have you worked on involving racial
25
```

```
gerrymander claims?
 1
 2
        Racial gerrymander claims have come up in every one of
   those cases.
 3
        Okay. Do you know who's paying your fees in this case?
 4
        The firm of Perkins Coie.
 5
 6
             MR. FARR: May I approach the witness, Your Honor?
 7
             JUDGE OSTEEN:
                            You may.
  BY MR. FARR:
 8
 9
        Dr. Ansolabehere, I'm going to hand you an exhibit marked
  Defendant's Exhibit 32. I'm going to ask you just to read the
  top part. It's an email from someone named William Stafford to
12
  Michael McKnight, a lawyer in my law firm. Just read that to
  yourself, and I'll have a question to ask you.
13
        How much of this do you want me to read?
14
  Α
15
        I just want you to read this part right here.
        This, this --
16
  Α
17
        Yeah.
18
  Α
        Okay.
19
             MR. HAMILTON: Your Honor, I have no objection to
  asking him to read the question. I may have an objection to
20
21
   whatever the question is.
             JUDGE OSTEEN: I didn't quite follow that.
22
             MR. HAMILTON: I needed -- I'm sorry --
23
24
             JUDGE OSTEEN: No objection to the reading, and then
25
   we'll see what follows. You may go ahead and read that.
```

BY MR. FARR: 1 2 So, Doctor, have you read this short paragraph? 3 Yes. Do you know what the Democratic National Voting Rights 5 Trust Fund is? 6 No. 7 You've never had any discussion with Mr. Hamilton or anyone in Perkins Coie about what that entity is? 9 Nope. You didn't know that the source of the funds to pay your 10 fees in this case were coming from the National Democratic 12 Voting Rights Trust Fund? No, I just know it was coming -- I was retained on behalf 13 of the Harris plaintiffs by Dr. Hamilton's firm or 15 Mr. Hamilton's firm. 16 And you've never met the Harris plaintiffs? 17 No, I've not. 18 All right. Now, there's a number of things I want to ask you about that occurred during your testimony. You made a comment that dividing counties increases the costs or problems 21 | with election administration. Do you recall saying that? 22 Yes. Α Have you ever worked as an election official? 23 24 No, I started and ran the Caltech-MIT Voting Technology Project which works on election administration issues.

6

7

9

10

18

remain involved in that project, and we work very closely with 2 election administrators.

Currently I'm working with the Secretary of State of Rhode Island to help her manage better her election administration devices, her voter registration lists her precincting and so forth. So I've worked very closely with people such as Nellie Gorbea, who is the Secretary of State of Rhode Island to help them administer elections, but I've never worked as an election administrator.

- So you've never worked as a precinct official?
- I have worked as a precinct official in my local 11 12 neighborhood.
- No, I mean in the precinct, running the elections in the 13 precinct? 14
- 15 Yeah, yeah, in my local neighborhood in Newton, 16 Massachusetts.
- 17 You were appointed to be an actual precinct official?
- We -- what we did is we actually made an arrangement as part of the Voting Technology Project to work election days as 19
- supplemental precinct workers so all the faculty, all the 20
- students who were working on the project volunteered to work in 21
- our cities, let us do that. We went through precinct training 22
- and so forth. 23
- How long did you work in the precinct? 24
- 25 I did two elections. I did a primary and a general.

Were there any divided counties for legislative 1 2 districts in the precinct that you were working? I don't know. 3 And you've never worked as like a county board elections director? 5 6 No. 7 And you've never worked as a state Board of Elections official? 8 9 No. So you really have no knowledge whether -- you have no 10 personal knowledge about whether having a divided county makes 11 12 election administration more difficult? Only what election administrators report to us, the Voting 13 Technology Project. We pretty regularly attend meetings like 15 NASED and NASS and commonly hold election administration meetings. We've facilitated meetings of all the election 16 administrators in the state of Massachusetts in the New England 17 18 area. And also I've been involved in other activities such as the Presidential Commission on Election Administration run by 19 Bob Bauer, a Democrat, and Ginsberg, a Republican. I organized 21 a team of academic researchers to help inform them about their decisions, about how to run elections better, and that process 22 interacted quite frankly with election administrators across 23 the country. 24

Dr. Ansolabehere, could you -- it would be helpful if

you'd answer the question that I asked you. I asked you, do you know what personal knowledge means if I say that? 2 3 There are different forms of personal knowledge. You mean actually working the election? 5 Right. Just what I've described, but there's other forms of 6 7 personal knowledge that include interacting with and listening to election administrators and the kinds of things that they tell us about the problems that they have and helping them to develop techniques and tools to help them manage elections better. 11 12 Have you conducted any academic study showing that administering elections is more difficult when a county is 13 divided into different legislative districts? 14 15 I've not done a study of it beyond interviews with election administrators. 16 17 Okay. And is there any sort of constitutional requirement in North Carolina that congressional districts be based upon whole counties? 19 I'm trying to remember. I don't remember the North 20 21 Carolina Constitution. Okay. And isn't it true, Dr. Ansolabehere -- or doctor 22 I'll say, because I don't think I got it right that time. Ιf

Deviation, that's the 2001 map, is it not?

25

we look at the two maps in front of you, Congressional Zero

- 1 A I believe it is.
- 2 Q And then does it say Rucho-Lewis 3, that's the map enacted
- 3 | in 2011?
- $A \mid A$ It looks like it, yep.
- 5 Q And you can see those?
- 6 A Yeah.
- 7 Q And isn't it true that in -- under the Congressional Zero
- 8 Deviation map, Congressional District 12 was made up of six
- 9 counties that were all divided?
- 10 A Correct.
- 11 Q And isn't it true there are some whole counties in the
- 12 2011 1st Congressional District?
- 13 A 2011, you mean Rucho-Lewis --
- 14 0 Yes.
- 15 A In the 1st Congressional District there are some whole
- 16 counties in CD 1.
- 17 Q Okay. Now, when we took your deposition in this case, you
- 18 told me that you were familiar with the *Cromartie* cases, right?
- 19 A Correct. I'm not a lawyer, but I've read them.
- 20 Q And you agree that the Supreme Court stated in Cromartie
- 21 | that actual election results were a better predicator of
- 22 whether race was the predominant motive than registration
- 23 statistics?
- 24 A I don't remember the exact wording.
- 25 Q If I showed you your testimony?

```
1
        Sure.
 2
             MR. FARR: May I approach, Your Honor.
 3
             JUDGE OSTEEN: You may. And just as you move
   forward, you don't -- neither side needs to ask if they can
 4
   approach. We'll make you go back if we feel like you're
 5
   abusing being up next to the witness. If you need to approach,
 6
   just go ahead.
 7
 8
             MR. FARR:
                        Thank you, Your Honor.
 9
   BY MR. FARR:
        Okay. Could you start on page 106 and read the question I
10
  asked you on page 106 at the top and then read your answer?
11
12
        Out loud or to myself?
13
        Into the record, yes.
        So the question is on page 106: Okay. What is the -- do
14
15
  you know what the Supreme Court of the United States says about
  election results or registration statistics are better
16
   predicter of actual voting conduct?
17
18
             My recollection from this is what came up in
  Cromartie.
19
             Uh-huh.
20
             Answer, is that they said that the election in
21
  Breyer's opinion, is that right, was a -- I'm trying to
22
  remember. I'm not sure I've got the right opinion in mind, but
23
  that election results are better predictors or preferred
   predictors. My experience analyzing the election -- analyzing
25
```

data is that the two are highly correlated. 1 2 Question --3 That's all I need to ask you. So do you recall now that the Supreme Court said that election results were a better predicator of behavior than registration statistics? 5 My recollection of that passage of -- I think it's -- I 6 7 forget if it's Cromartie 1 or Cromartie 2, is that registration statistics need to show that the registration statistics are 8 9 related to election data but election -- because this is fundamentally about voting behavior. 10 So they said that the actual election results were 11 12 a better predicator of behavior than registration statistics? 13 Again, I don't know the exact quote. What --14 15 I don't know the exact line offhand. Isn't that what you recalled in your deposition? 16 17 My recall in the deposition is what I read, yep. 18 Okay. And yet in this case you didn't look at election results to analyze whether race was the predominant motive? 19 20 I looked at the relationship between the election I did. 21 results and the registration data to confirm that the registration data were indeed predicative of the voting 22 behavior and -- so there's a choice here about what kind of 23 analysis to do. One choice is to do a conventional analysis 24 25 where you look at the correlation between black voting-age

population at the Voting Tabulation District level and election results. That's the traditional thing that we as social scientists do or election analysts do in order to determine what's happening at the precinct level or at the district level.

The issue at hand is whether or not that traditional analysis, looking at the correlation between black voting-age population and election results, is stronger than looking at the correlation between registration data and election results. And the finding -- and it was -- it came out in my response report, the finding was that the registration data from North Carolina, especially around the area of CD 1 and CD 12, were much stronger predictors of voting behavior than were black voting-age population.

So that pointed me pretty strongly in the direction of using the registration data, and it's my professional experience that where the registration data are available, especially where race and party are available on the voter files, which is not very many states, that that's a preferable data source to use to analyze election behavior, projected election behavior or future election behavior. The Cromartie decision was --

- Q Doctor, could I ask the questions, Your Honor?
- 24 A Sure.
- 25 Q Dr. A, let me be more specific. You looked at the VTDs,

which you explained very well to the Court what a VTD is. 2 looked at VTDs moved in and out of Congressional Districts 1 and 12, and you examined the registration statistics, is that 3 correct? 5 Correct. 6 And you could have looked at the voting results for each 7 VTD, could you not? Correct. 8 Α 9 And you did not do that, did you? 10 No, I did not do that. And what's a better predicator of voting behaviors? 11 12 actual voting results for a VTD or doing a correlation analysis of registration statistics? What do you think would be a more 13 precise way to decide how people in a VTD voted? If the question -- I'm a little unclear of the question, 15 but if the question is what's a better predicator of future voting behavior, then you could look at registration statistics 17 18 and voting -- past voting records, so if my prediction is about how this vote is going to come out in the 2014 congressional 19 election, I could look at the 2008 Obama race or the 2008 20 governor's race. There's a variety of things to choose. 21 22 The reason I looked at the registration statistics is that they were showing up as more strongly correlated with the 23 vote that was observed in the elections that had occurred in

the area than even were the voting-age population.

- 1 Dr. A, isn't it true that the reason why you looked at 2 registration statistics was because if you'd looked at actual voting results, you would have had to have concluded that 3 District 12 was based upon political considerations, so you had to do something else to get around that? 5 That's not true. 6 7 Okay. Now, let me ask you some other questions about your background. Have you ever been hired to draw a redistricting plan for a state legislature? Do you mean by a state legislature? 10 11 Yes. 12 No state legislature has every hired me to draw a districting plan. However, I did draw the districting map for 13 the Romo plaintiffs in Romo v. Detzner, which was -- portions 14 15 of that plan, especially CD 5, were recently adopted by the 16 courts. 17 Okay. Well, my question was whether you had been hired by a legislature to draw a redistricting plan. Well, the complication is the legislature had to enact 19 that map, so the legislature actually did enact some of the 21 districts that we drew as part of that case. Okay. But you've never been hired to draw a redistricting 22 map for a legislature? 23
- 24 A By a legislature, no.
- 25 Q Okay. And have you ever been hired by a political party

- or an entity to draw a redistricting map to submit to a legislature?
- 3 A Yes.
- $4 \parallel Q$ Was that in context of litigation?
- $5 \parallel A$ Yes, in the context of the Florida litigation.
- 6 Q Right. But other than in the context of litigation, have
- 7 you ever drawn a redistricting map for a political party or a
- 8 person to be submitted to a legislature during redistricting?
- 9 A No.
- 10 Q Now, are you familiar with Maptitude?
- 11 A Yes, I am.
- 12 Q Could you briefly tell the Court what Maptitude is.
- 13 A Maptitude is a software package developed by a firm in
- 14 Needham, Massachusetts. It's commonly used in redistricting.
- 15 It's one of several software packages available. It takes the
- 16 basic geographic information data that's provided by the
- 17 Federal Government, merges it in with the census data, merges
- 18 | it in with past election data, and it is used pretty commonly
- 19 to draw maps.
- 20 Q And do you know whether or not Maptitude was used to draw
- 21 maps in North Carolina in 2011?
- 22 A I'm not sure, but I suspect it was.
- 23 Q Dr. A, you've been trained on Maptitude?
- 24 A Yes, I did a Maptitude training.
- 25 Q Okay. When you're drawing a map on Maptitude, can the map

- drawer decide what information they're looking at? 2 Yes. 3 And can you pull up election results based upon Vote Tabulation Districts? Yes, it depends on what they've loaded into the system. don't know how the system was configured for North Carolina. 6 7 Now, would you not agree that when you're -- if you're drawing a map based upon election results, you cannot 9 tell the race of the voters? Of individual voters? 10 Um-hum. 11 12 The data are -- the data in a district mapping system are at the level of blocks or VTDs. Blocks are small census areas, 13 typically around 200 to 400 people that can be moved around, but they can be as small as 1 person, so in that case you could tell that one person's race if there was one black person in that bloc. But typically that's the lowest level of 17 aggregation you get bloc level. That wasn't my question. If you're looking at 19 election results on a VTD level, can you determine what the race of the voters are in that VTD? 21
- 22 A The voters as a whole or an individual voter?
- 23 Q The voters in the VTD? Can you tell the race of any of
- 24 the voters in the VTDs?
- 25 Any individual voter? No, but the race of the voters

```
aggregated, if I'm in Maptitude looking at the VTD level data,
 2
  I can click on a button and it will pull up a number that shows
   on Maptitude what the VTD race is.
 3
        That's if you pull the button up to look at the racial
   data, right?
 5
 6
        Again, it depends on how it's configured. I don't know
 7
   anything about how the North Carolina -- the process of drawing
  the districting map in North Carolina, who did it and what
 8
   they -- how they had configured the system.
        So you don't know what they looked at when they drew the
10
  maps in North Carolina?
11
12
        Yeah, I don't know anything about the process of --
        But you would agree that if you were using Maptitude, and
13
  you're looking only at election results for each VTD, that
15
   would not include racial data if you were only looking at
  election results?
16
17
        If you were only looking at racial data and you turned off
   everything else, then that would be the case.
19
             JUDGE OSTEEN: Only looking at -- all right.
   down a little bit. He asked you about election results.
20
21
             THE WITNESS:
                           Right, oh, I'm sorry. Sorry. If
  you're only looking at election data, and you only pull up the
22
   election data, then that would be the case; but, again, I don't
23
  know how it's configured. When I took Maptitude training and
24
25
   what was explained to me by Maptitude is the default settings
```

25

case?

are the racial data -- are the census data. So anything census has provided is what's uploaded. So you'd have to turn that off and then turn on the election data. 3 BY MR. FARR: Did you make any effort to determine what was on the 6 screens when Dr. Hofeller was drawing the districts? 7 No, I was not asked to look into the process of the map paper. 8 9 So you didn't -- you didn't review any of the testimony in the state court case, Dickson v. Rucho? No, I did not. 11 12 You didn't review any of the affidavits or statements that Dr. Hofeller made? 13 No, only his reply report to me in this case. 14 15 And you didn't look at any of the statements that the two cochairs, Senator Rucho and Representative Lewis, made about the criteria that they directed Dr. Hofeller to follow in 17 drawing Congressional District 12? No, I did not. 19 Now, you've done two VTD comparisons, one involving 20 21 registration statistics and the other involving race, is that 22 right? 23 Α Yes.

Okay. Now, did you -- you talked about the Bethune-Hill

1 Yes. 2 Now, in this case you never looked at election results for 3 the VTDs that were moved in and out of the 12th District or the 1st district? 5 Correct. 6 In the Bethune-Hill case you did not do that? 7 Correct, because they do not have race and party on the registration file so we can't look at the counterfactuals of 9 party given race and race given party. We have to rely on the correlation between black voting-age population and election results. That's the best we could do, which is -- I saw here 11 12 was a weaker correlation than the registration correlation. Okay. So in the Bethune-Hill case, you looked at election 13 results, which the Supreme Court has said are better predictors of voting behavior than registration, but in the North Carolina 15 case --16 Let me -- there's several levels to 17 JUDGE OSTEEN: that question. You had an exchange about what the Supreme Court had said in the Cromartie case with respect to election 19 results, so try to just ask a question instead of a comment in 20 the middle. Do you follow what I'm saying? 21 I'm sorry, Your Honor. I apologize. 22 MR. FARR: JUDGE OSTEEN: No apology necessary. 23 24 MR. FARR: All right. 25 BY MR. FARR:

- So Dr. A, we went over your testimony that you were aware 1 of the fact that the Supreme Court in Cromartie said that 3 election results are better predictors of future behavior than registration statistics, right? 5
- Right, I read that passage.
- Okay. And so in Virginia you looked at election results 6 7 comparing the election results in the VTDs that were moved in and out? 8
- 9 Correct.
- And then you looked at the racial statistics of the VTDs 10 that were moved in and out? 11
- 12 Correct.
- 13 And you compared the election results for a VTD that was moved out versus the racial statistics that was moved out?
- 15 Correct.
- And you did the -- you compared the election results for 16
- the VTD that was moved in, and you compared the racial 17
- percentages for the VTD that was moved in?
- Correct. 19 Α
- And you -- then you calculated the difference? 20
- 21 Correct. It's essentially like looking at the correlation
- between the vote and the racial composition of the VTDs moved
- in and out. 23
- Right. And you didn't do that in this case? 24
- No, because, in my judgment, the registration data were so 25

strongly correlated with the election data, and they allowed me to get down to that level of analysis that I wanted to get down 2 to, so the registration data were preferable. 3 Now, your correlation on registration and race, Okay. that came up in your second report? That correlation table? 5 Yes, I presented it in my second report. 6 7 And your second report was dated May 6 of 2014? Correct, and that was in response to Dr. Hofeller's 8 9 report. And your first report was dated December 12, 2013, 10 Right. and this is Plaintiff's Exhibit 12 or -- I believe it's 12, 11 12 Your Honor. So your first report was dated 12/23/13? Let me look at the date. Yes. 13 So the correlation that you made between registration and 14 race, that wasn't done in your first report, was it? 15 It was not presented in my first report. 16 17 And you only did that after you saw Dr. Hofeller's report criticizing your first report? No, I looked at correlations between the data first, and 19 then I made a determination that there was sufficiently strong 21 correlation that registration was a predicator. The concern was that there might have been a lot of white Democrats who 22 were crossing over and voting Republican, and I didn't see 23 tremendous evidence of that or unusual --24

Now, wait a second, Dr. A. Your first report -- you don't

give any explanation in your first report why you didn't use election results, do you? 2 No, I don't think there's an explanation for that. 3 You don't say I used -- I didn't use election results because I think there's a stronger correlation between race and politics? That's not in your first report? 6 I don't believe it is. 7 And you didn't talk about that correlation analysis until 8 after you had seen Dr. Hofeller's report criticizing your report for not using election results? I didn't present those until I -- I did not include them 11 12 in my first report, which would be the only other time to present them. 13 14 Okay. Now --MR. FARR: May I approach, Your Honor? 15 16 JUDGE OSTEEN: You may. MR. FARR: I'm sorry, Your Honor, that's a hard habit 17 18 to break. I apologize for asking. 19 JUDGE OSTEEN: That's all right. I didn't even think about it. 20 21 BY MR. FARR: So, Doctor, I've given you Defendant's Exhibit 128. 22 you know what this is? 23 24 It's an article by Rick Pildes and Dick Niemi in the 25 Michigan Law Review.

- And this is the 92 Michigan Law Review 483, December, 1 2 1993, correct? 3 Correct. And is this law review article on the topic on compactness? 5 6 This is an article I believe about compactness. 7 Is this recognized as an authoritative article on the issue? 9 This is one of -- one of the -- one of many articles on the issue that people reference. I have one main reason for giving this to you, Doctor. 11 12 want you to turn to page 30, and you actually may want to look at page 29. Now, on page 29 and 30, do these authors not give 13 the -- give compactness scores for the 1992 North Carolina Congressional Districts? 16 I'm looking at 29. It looks like their table on 30 I believe that's North Carolina -- yeah, it's their measure of 18 compactness. Okay. And so there's two measurements there. One is 19 called dispersion, the other perimeter. Isn't dispersion the same as the Reock test? 21 If my recollection of this article is correct, then 22 they're using Reock for dispersion.
- Okay. And so this is the 1992 plan, and what was the Reock score that the 1st District received?

- 1 | A .05 -- I'm sorry .25, sir.
- 2 Q Okay. So that means that the -- I think I recall you
- 3 saying that the 2011 1st District has Reock score of .29?
 - A Yes, the Rucho-Lewis map, yes.
- 5 Q Okay. So using your standard, which I'll ask you about
- 6 later, the 2011 1st District is substantially more compact than
- 7 the 1st District under the '92 plan, is that right?
- 8 A Yeah, it looks to be more compact.
- 9 Q And under your test, it'd be substantially more compact?
- 10 A Yeah, I did not compute these numbers.
- 11 Q Okay.
- 12 A So it's a given.
- 13 Q And what's the Reock score for district 12 which was the
- 14 district that was ruled to be illegal in the Shaw case?
- 15 A Under this table, the Reock is .05.
- 16 Q Okay. That's all I have on that.
- 17 Now, I want to turn your report to Exhibit 12, and I
- 18 want to talk about your compactness testimony. First of all, I
- 19 want to ask you to turn to page 4, paragraph 7. Are you there?
- 20 A Yes.
- 21 Q Do you see the sentence where you say, "I conclude that
- 22 CDs 1 and 12 are substantially less compact under the Reock
- 23 Lewis map than the 2001 to 2011 map?
- 24 A Correct.
- 25 Q What did you mean by "substantially less compact?"

CD 1 -- the version of CD 1 from the benchmark to the 1 2 Rucho-Lewis reduced the compactness from .39 using Reock to .29. It's a 10 point drop. And then similarly there's a drop 3 from .12 to .07 in the Reock score of the CD 12. So when you use the word "substantially," is that just 5 your opinion, or is there some sort of standard for knowing 6 7 when a drop in a Reock score is, quote, substantial? Well, so the situation in CD 1 and CD 12 are somewhat 8 9 different. CD 12, under the benchmark, was already a pretty non-compact district. Compactness score of .11 is very low, and I used a general cutoff as a rule kind of -- just a rule 11 12 where things are relative to the original gerrymander. The article by Niemi and Pildes talks about using 13 different thresholds of .25, .15, and .1. So under that rule, 14 15 CD 1 came in pretty much right where the original gerrymander was, and CD 12 was substantially below that. So the levels is 16 the first thing to look at, and then the reduction. 17 Ιf 18 something's already highly non-compact, it's hard to make it less compact without squeezing it a lot, and that's what 19 happens. So the percent difference is a big difference in 20 CD 12, so those two things. There's a bit -- a 10 point shift 21 is a big shift in Reock of CD 1. 22 23 According to who? Q According to me. According to my experience. 24 Is there any legal case that says that? 25 Okay.

Okay.

I know of no legal case. I'm just testifying as an 1 expert. I don't know the law on this. 2 3 Okay. And have you stated in this case, in Bethune-Hill, that if the Reock score is above .2, then that would not be considered a non-compact district? Yeah, .2 -- .19 remember is the Reock of the original 6 7 gerrymander in the State Senate side and .29 -- or 28 is the original gerrymander in the congressional district. So .2 is one of the thresholds that we commonly use. .25 again is Pildes as well as .15 Pildes and Niemi. So different thresholds in that neighborhood are used, so we really look for 12 that neighborhood. There's no firm statistical test for what's non-compact or compact. .2 is one of the rules of thumb. 13 So wait a second. I'm confused. What are the two 14 districts you're talking about where you get this .19 and .28? The original gerrymander as it was drawn, the thing that 16 we call the gerrymander, it's named after Elbridge Gerry --17 Gerry, had a Reock score of .19. What kind of district is that? 19 20 One of them is a State Senate district, and one of them is 21 US congressional district. The State Senate district had a .19 and the congressional had a .28. 22 And how do you know that? 23 24 I calculated it.

I have Jeff Lewis, who's a scholar at UCLA, has provided 1 2 all of the mapping data for every congressional district in US history, and I calculated the compactness of every 3 congressional district in US history, including the original gerrymander. 5 6 Okay. Now, was there any finding that these two districts 7 that you recall were found to be uncompact? Finding? 8 Α 9 By a Court? MR. HAMILTON: Objection, Your Honor. Now he's 10 examining him on the law. He's not a lawyer. He's here as a 11 statistical expert. 12 JUDGE OSTEEN: He's asking for -- he may or may not 13 know, but he's asking a question about his knowledge. 14 15 overrule. You can answer the -- if you -- I mean, you can 16 answer the question. 17 THE WITNESS: I don't know. BY MR. FARR: Okay. You don't -- has there ever been a finding by a 19 Court that either .28 or .19 are insufficiently compact? 21 Not to my knowledge. As an analyst I use it more as a red flag than as something I throw at a district because it's too 22 23 low. All right. And, Doctor, do you know -- I asked you this 24 at your deposition, I think, but did you go back and look to 25

see what the Reock score was for the 1997 1st Congressional District? 2 I don't recall that. That's over a year. 3 Okay. Well, if -- if I will tell you that the Reock score for the '97 Congressional District was .319, would you consider 5 a Reock score change from .319 to .29 substantial? 6 7 No, as a percentage change, it's a small percentage change -- relatively small percentage change. 9 Okay. I want to turn to your chart on compactness which is Table 1 on page 22 of Plaintiff's Exhibit 12. Are you there? 11 12 Yes. lΑ So I just want to point a few things out to the Court 13 about your Reock comparison, Doctor. You're reporting a Reock score for the 2011 1st District of .294? 15 16 Yes. 17 Okay. And the 2001 and 2011 plan, were there not several districts that had a lower Reock score than the 2011 1st Congressional District? 19 Say that again. Were there any districts that had a 20 21 llower --Right. 22 Q I think we're using the terms -- 2011, you mean the 23 Rucho -- what I'm labeling the Rucho-Lewis column here? 25 Yeah, what --

Let's compare 2.294 to all of the numbers in the 2011 1 2 to -- 2001 to 2011 map? 3 Yes, sir. So 294 is below all five in this analysis 12, CD 12, which 5 lis .16. 6 Q Yeah, and also 13? 7 And 13 which is .237. And the 2011 District 2 is pretty close to the 2011 1st 8 9 Congressional District? 10 **|** A You mean --.303 is pretty close to .294? 11 Q 12 Α Okay. That's not a substantial difference, is it? 13 14 Α No. 15 All right. And then if we just look at the Rucho-Lewis 16 map, are there not several districts in the 2011 congressional map that have a lower Reock score than the 1st District? 18 There are. They are 4, 6, 9, 11 and 12, and with the exception of 11, all of them border 1 and 12. 20 Okay. Now, I have a question about -- about one of the ones that is lower in the Reock score. It's Congressional District 9 in the 2011 map. Do you see that? 22 23 I do. Α And that's -- that district is down in the Mecklenburg 24 County area, is it not?

- 1 Correct. 2 Okay. Now, in your testimony you said that Congressional 3 District 12 caused Congressional District 9 to be less compact. How do you know that Congressional -- the configuration of Congressional District 9 didn't cause 12 to be less compact? 5 It could have gone either way, but if I was just analyzing 6 7 12 and I'm putting a boundary of 12 in there to comply with, say, the Voting Rights Act, and I'm configuring it a certain 8 9 way, then that would be taking -- the movement of VTDs in and out would be causing less compactness. 10 And remember that Mecklenburg cut of nine underneath 11 Charlotte, that sent a finger up. That adds to the 12 non-compactness. So those kind of moves, those kind of VTD --13 those twisting VTD boundary twists around the southern part of 15 Charlotte are adding to the non-compactness. It doesn't contribute to the entire shape of the district because they're 16 not twins in some sense. 17 18 But your -- you agree with me that it's possible that what
 - Q But your -- you agree with me that it's possible that what you described as the compactness of the 2011 12th District, it could be -- it could have been caused by things the decision makers did to draw Congressional District 9?
- 22 A Correct.

21

Q And Dr. Ansolabehere, you didn't look at the political impact of any of the other congressional districts in the 2011 plan?

- 1 A No, I was only asked to look at CD 1 and CD 12.
- 2 Q So you didn't look -- you didn't compare, for example, the 3 political balance in the congressional delegation in the 2001
- 4 map and how that compared to the political balance of the 2011
- 5 map?
- 6 A No, I did not.
- 7 Q And so you have no idea how political considerations that
- 8 went into drawing other districts might have impacted the shape
- 9 of Congressional District 12?
- 10 A I only looked and was only asked to look at CDs 1 and 12
- 11 and whether race or party were a more substantial factor in
- 12 understanding the configuration of those districts.
- 13 Q Okay. So then perhaps you can answer my question. You
- 14 have no idea how changing the political balance of the entire
- 15 congressional map in 2011 may have impacted the shape and
- 16 | location of Congressional District 12?
- 17 A I didn't look at the entire political balance of the map
- 18 so I can't answer that question.
- 19 Q Right. And that could have been a factor in the shape and
- 20 the location of Congressional District 12 and the decision on
- 21 | what VTDs to put in Congressional District 12, how it impacted
- 22 surrounding congressional districts?
- 23 A That is highly unlikely given the analysis of race versus
- 24 party and party versus race. If you were moving partisans in
- 25 and out, you would have seen a different pattern of the

5

6

7

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11

12

13

movement of VTDs in and out. You would not have been moving racial groups given their party in; you would have been moving partisans groups given their race in.

And that was -- that particular analysis, which is only really accessible through the registration data, indicates to me that at least the boundaries narrowly confined around these districts, not the entire area of the state, but it varies right around these districts, were more driven or had more of an effect of sorting by race and not by party.

- Q Okay. You say that that just is implausible. Let me ask you this question, Doctor: Do you know who the incumbent Congressman was in Congressional District 8 after the 2010
- 14 A I don't know.

election?

- 15 Q Do you know if it was a Democrat?
- 16 A I don't recall.
- Q Do you know which party's candidate won the election in Congressional District 8 in the 2012 election?
- 19 A I don't know. I have not --
- Q Okay. Do you know which party's can -- you see where Congressional District 13 is in the 2001 map?
- 22 A Yes.
- Q Do you see how that stretches from Raleigh and goes across the northern top of the state and then reaches down into
- 25 Guilford County?

- 1 A I do.
- 2 Q And, by the way, did you ever -- did you ever look at the
- 3 1997 congressional map?
- A No.
- 5 Q So you couldn't -- you wouldn't know whether or not the
- 6 13th Congressional District took heavily Democratic precincts
- 7 out of the 1997 congressional map?
- 8 A I did not look at the '97 map.
- 9 Q Okay. Now, do you know who the incumbent was in the 2013
- 10 Congressional District in 2010?
- 11 A In the 13th District?
- 12 Q Yeah.
- 13 A No.
- 14 Q And do you know -- can you see in the 2011 plan that
- 15 | Congressional District 13's no longer located in Guilford
- 16 County?
- 17 A Correct.
- 18 | Q And do you know who won the election, Republican or
- 19 Democrat, in the 2012 general election for Congressional
- 20 District 13?
- 21 A I don't know.
- 22 Q Okay. Do you know whether or not the percentage for the
- 23 candidate running -- the Democratic candidate running in
- 24 Congressional District 12 in 2012, do you know whether or not
- 25 their vote total increased as compared to the prior

presidential election in 2008? 2 So that the vote for Mel Watt in 12 for CD 12 in 2012 versus 2008? 3 Right, do you know if that increased? 5 I think it must have increased because I think CD 12 --2012 was his peek. I think that's 80 -- he got 80 percent, so 6 7 I think that is an increase. I don't know what the number is offhand. 8 9 Okay. So his percentage of his vote increased after CD 12 was redrawn by Dr. Hofeller, and according to his testimony drawn to make it a stronger Democratic district, is that 11 12 correct, sir. His vote increased, yeah. 13 Yeah, okay. And did you look to see whether or not 14 15 Congressman Butterfield's vote in the 2012 district and his margin of victory increased as compared to the 2008 general 16 presidential election? 17 18 I'm trying to remember what the '08 was in 2000 -- I know it's behind me on the board, but I believe it increased. 19 20 Okay. Did you ever study Congressional District 2? No, I did not study Congressional District 2. 21 22 Right. Did you ever study the percentage by which -there was a Republican candidate that won that district in 23 2010. Did you look to see whether or not that candidate won that district by a larger margin in 2012 as compared to 2010? 25

- 1 A No, I did not study 2002.
- 2 Q Okay.
- 3 A The CD 2.
- 4 Q All right. So you didn't make any political analysis of
- 5 any of the districts and how they were impacted by the changes
- 6 that were made in the 2011 map?
- 7 A No, my analysis only considered CD 1 and CD 12 and whether
- 8 or not the configuration was better predicted as a function of
- 9 race or of party.
- 10 Q Okay. And now I'm going to ask you a question I should
- 11 have asked you in your deposition. I want to look at your
- 12 compactness table on page 1.
- 13 A Yes.
- 14 Q And that's called ratio of area to perimeter of district?
- 15 A Yes.
- 16 Q Can you tell me -- you don't have any calculations with
- 17 \parallel this report showing how you calculated these numbers, do you?
- 18 A No.
- 19 Q Okay. Can you tell me how you got these numbers?
- 20 A I used ArcGIS which is the base -- so ArcGIS is the
- 21 | standard GIS platform. So Maptitude is actually programmed on
- 22 top of ArcGIS to use the geographic information system that
- 23 ArcGIS has, and the programming just pulls up the information
- 24 from ArcGIS and puts a nice interface on it so it can go
- 25 around. So I was working in ArcGIS and I overlaid the -- I

calculated an ArcGIS because it has the function, the perimeters of -- in miles of the area of the districts and the 2 areas in square miles. 3 Okay. So you calculated the perimeter of the district, which is the -- if you walked all the way around the district, that's the perimeter? 6 7 Correct. And then you calculated the square miles that were inside of the district? 10 Correct. And then -- and then what did you do? 11 12 It's just the ratio. Α This is the ratio? 13 I calculated the ratio of those two things, the area to 14 15 the perimeter. Okay. So explain to me -- explain to me what -- let's 16 just look at Congressional District 1 for the 2001, 2011 plan. The ratio of the area to the perimeter is 11,098? Yes. 19 Α 20 So that means that for what? What does that mean? 21 For every unit of area, there is -- for every 11,000 square miles contained in that, right, so that's -- every mile 22 gives you 11,000 square miles, so that's the ratio. 23 Okay. So you're saying that 11,098 is the number of 24 square miles in Congressional District 1?

- 1 A No, no, so this is the ratio of the area to the perimeter.
 2 You take that ratio.
 - Q Okay.

- $\mathbb{R} \mid \mathbb{A}$ Total area divided by the perimeter.
- So you take the perimeter, divide by square miles, and you're saying you get 11,000 -- or excuse me -- 11,098 would be the ratio?
- 8 A I believe that's the ratio we calculated, yes.
- 9 Q So can you back engineer that and tell me what the openimeter of the --
- 11 A I'd need to know some other -- I'd have to have the data
 12 with me to back engineer and tell you what the perimeter is.
- 13 | Q Okay.
- 14 A The key thing is the ratio of those two numbers from the
 15 Rucho-Lewis map to the -- from the benchmark to the Rucho-Lewis
 16 is about .6 which means there's a 40 percent reduction in the
 17 compactness using area to perimeter.
- Q Okay. Do you know how many square miles there are in North Carolina?
- A No, not offhand. And I don't remember if this was square miles or some other measure of area.
- Q Okay. Here's what I don't understand. I'm going to -we'll put this into evidence later, but I think Dr. Hofeller
 will testify there's around 53,000 square miles in North
- 25 Carolina. I think he also will testify if you look at the --

under ratio of area to perimeter of districts, these numbers that you've got in there, for like the 1st District you've got 2 6,896 and then so forth. If you add all that up, Doctor, we've 3 got 123,000. 5 Okay. So how could you get 123,000 as the ratio between the 6 7 perimeter in square miles when there's only 53,000 square miles in North Carolina? 8 9 Well, I don't know what the math is that you've done. can go back and reconstruct this using my code for ArcGIS. 10 It's a little unusual to ask me about this in the context of a 11 12 court of law where I can't go back and look at my data. 13 Well, if you had your data here and you had your calculations with your report we'd be able to look at it? 14 15 If I had ArcGIS. This is what ArcGIS provides if you go in and ask for the ratio of square miles to the perimeter. 16 17 But you don't have your actual figures showing what you divided to arrive at the figures that are in this table? No, it's in a computer program. 19 20 Okay. Now, this second test we just looked at, is this a 21 recognized test for compactness? This is one of many indicators area to -- ratio of areas 22 to perimeter. There's similar kinds of tests. 23 I think Schwartzberg is also a perimeter type test, so there are

different kinds of perimeter tests one can use; and this,

It's a fairly old one.

- again, is measuring how jagged the perimeter is relative to the area.

 Q Is there a name for this test?

 A This one is literally called the area to perimeter test.
- 6 Q Okay. I thought in your deposition you told me this test 7 did not have a name?
- 8 A Well, when it shows up on the -- when you get -- ask for 9 some number, you can ask for the area to perimeter ratio.
- 10 That's what it comes out as in the computer program. So it
- 11 doesn't have a name like Schwartzberg or Reock or
- 12 Polsby-Popper. It's not tagged to some academic who published
- 13 | it in a particular article. It's just produced as a matter --
- 14 a common sense matter in computer programs that calculate GIS.
- 15 Q I guess a couple more questions about that I forgot.
- 16 Just looking at your table on page 22, explain to me -- this is
- 17 your ratio of area to perimeter test. Is it more compact if
- 18 the number's higher or lower?
- 19 A Higher number is more compact. That is there's more area 20 for each piece of perimeter.
- Q Okay. So under your test, this -- what you describe as
- ratio to area is perimeter, the Rucho-Lewis Congressional
- 23 District 1 is more compact than at least three of the districts
- 24 in the 2001 Congressional Plan, is that right?
- 25 A So reading down the Rucho-Lewis, we have 6896 as the ratio

for Rucho-Lewis, for CD 1; 3265 is the ratio for CD 4; 3669 is the ratio for CD 9; 1839 is the ratio for CD 12; and 5377 is the ratio for CD 13. 3 So those are the districts in the 2011 plan that are less compact under this test than the Rucho-Lewis 1st District? 5 6 Right, so they're less compact, and my comparison is from 7 the benchmark to Rucho-Lewis. I got confused on that, Doctor. If you compare the 8 Okay. 1st District in the 2011 plan under your test to the 2001 plan, are there not at least three districts that are less compact than the 2001 plan? 11 12 Than CD --13 CD 1 in the 2011 plan? So, in other words, using 6896 as the benchmark? 14 15 Yes. I see CD 9, CD 12, and CD 13 as having less area to 16 perimeter than 6896. 17 18 Okay. And then there's at least four districts in the 2011 plan that are less compact than Congressional District 1 in the 2011 plan? 20 Say that again because we're comparing across. 21 I'm sorry. Just looking at the 2011 plan under your ratio 22 of area to perimeter test, are there not one, two, three --23 aren't there four districts in the 2011 plan that are less compact under this standard than in Congressional District 1? 25

Guide me through it. I'm not sure the com -- I'm unclear 1 2 of the comparison you're drawing. Are you comparing the 11098 number to --3 No, no, I'm sorry. I'm looking at Congressional District 4 5 1 in the Rucho-Lewis plan. 6 Α Okay. 7 Six-nine -- 6896, right? Got it. 8 Α 9 So that's more compact than Congressional District 4? 10 A Correct. It's more compact than Congressional District 9? 11 Q 12 Correct. lΑ 13 It's more compact than Congressional District 12? Correct. 14 lΙΑ 15 It's more compact than Congressional District 13? 16 Correct. 17 Okay. Now, you have -- you have admitted that you've not studied the partisan impact of the first -- of the 2011 Congressional Plan? 19 20 No, I've not. 21 So you haven't -- you have not drawn a map in this case, you've not drawn an alternative Congressional Plan, have you? 22 23 Α No, I have not. And you've not drawn an alternative Congressional Plan to 24

show how districts could have lower Reock scores while still

achieving the same partisan balance that the General Assembly desired to achieve in the 2011 Congressional Plan? 2 No, I have not. 3 Question, you stated that the Reock score of District 11, which is the westernmost district in the state, you said that that was impacted by the fact that that was the boundary of the 6 state? 7 Correct. 8 9 Okay. Now, Congressional District 1 goes to the northern boundary of the state? Correct. 11 12 Why doesn't that impact the Reock score of Congressional District 1? 13 A couple of reasons. One is 11 is almost completely 14 defined by the boundary of the state, so 11 is probably -- in the zero deviation map shown here, that's probably, I don't know, 80 percent of the boundary of the district is the 17 boundary of the state. And it's very -- it's that narrow tail of the state, and however non-compact that is, it's going to 19 affect the compactness score. Also, it's defined by the 20 boundary of the state squiggling in and out up there, and 21 that's going to affect it as well. 22 23 The boundary of CD 1 is that northern part is a much smaller segment of the whole boundary, and it's also very 24

smooth, so the compactness is affected both by the smoothness

```
of the boundary and the extent of it. So it's a smaller extent
 2
  of the state's boundary and it's a less squiggly part of it, so
 3
   it's got -- those are the two features of the state boundary
   that are going to affect the compactness score for CD 11.
        Okay. So the state boundary has a bigger impact on the
 6
  Reock score for Congressional District 11. Does it not have
  some impact on Congressional District 1?
 7
        It could.
 8
 9
        Okay.
              And you didn't mention that in your report, did
10
  you?
        No, just eyeballing the shape of the district, what's
11
12
   going to have a much bigger effect on the Reock score for
   Congressional District 1, this long tail hanging down, because
13
  that's going to affect the distance, the diameter of that
14
   circle more than the distance.
15
        All right. Doctor, I want to move on to page 8 of your
16
   first report which is exhibit -- Plaintiff's Exhibit 12.
17
   got a few questions about your testimony about race.
19
             Your Honor, I've been making a mistake. I think this
   is Plaintiff's Exhibit 17.
20
21
             JUDGE OSTEEN: What you've been calling 8?
             MR. FARR: No, the first report is Plaintiff's
22
   Exhibit 17. I've been calling it 12, I think.
23
24
             JUDGE OSTEEN: Okay. I'll make a note for the
25
   record.
```

I apologize. 1 MR. FARR: 2 That's all right. JUDGE OSTEEN: BY MR. FARR: 3 Doctor, when you looked at the racial characteristics of 4 Congressional District 1 and 12, did you attempt to determine 5 the non-Hispanic white population for those districts? 6 7 No. And when you -- in paragraph 18 when you're talking about 8 9 the black voting-age population? 10 Yes. You've been here during trial, I think. 11 12 For much of it, not all of it. 13 I think you actually explained this in your testimony, but there's a difference between single-race black voting-age population and any part black voting-age population, 15 16 correct? 17 Correct. 18 And I think -- did you explain that to the Court? I won't ask you to do it, but I think you did. 19 I did. 20 Α 21 Okay. Now, right here in paragraph 18, which one of those categories are you using? When you say -- when you say "black" 22 VAP, " is that single-race, or is that any part black? 23 It should be any part black. 24 25 And then I wanted to note that as of the time of

the 2000 Census, you are reporting here that the registered 2 voters in the 1st Congressional District were 50.7 percent black? 3 Correct. So they were a majority -- blacks were a majority of the 5 6 registered voters in the 1st Congressional District? 7 Correct. Did you try to determine what percentage the black voters 8 9 were of registered Democrats? 10 No, I did not. Did you attempt to look at the percentage of Democrats 11 12 that were in this district? No, I did not. 13 Α Either for the 2001 Plan or the 2011 Plan? 14 15 lΑ Nope. Okay. And then look at your paragraph 18. 16 In the last sentence where you reference Congressional District 1 -- and 17 18 this is Congressional District 1 under the 2001 Plan where the blacks were a majority of the registered voters, correct? 19 20 Correct. 21 Okay. Then you've got a figure there that says 48.6 percent, and I'm not quite sure. Does that mean that 22 blacks were 48.6 percent of the registered voters in 23 Congressional District 12? 24

That's my reading of the sentence.

- Q Okay. And did you report the white registration statistics?
 - A I did not.

- Q And do you know whether whites were a minority of the registered voters in both of these districts under the 2011 6 Plan?
- 7 A I don't know. In the case where blacks are 50.7, they 8 have to be because blacks are the majority.
- 9 Q Okay. And then do you know whether -- in the North
 10 Carolina statistics on registration, are Hispanics in a
 11 separate category, or are they included in either the white or
 12 black category?
- A My understanding of the registration data are that you identify as white, black, Hispanic, Asian, et cetera, so you choose a category.
- Q Okay. Now, I want to talk about -- now, I want to move to your envelope theory if we could talk about that for a little bit. Who came up with the idea of using the envelope theory in
- 19 a racial gerrymander case?
- 20 A What do you mean?
- Q Who first used that? Did you borrow that from someone else, or is that something that you --
- A I was relying on the traditional districting principle
 that you want to keep -- you look at where the counties are
 located, so you're keeping -- thinking -- imagining counties

```
being kept whole or the counties being the locus of the
  districts.
               That's an old idea. That's in state laws going way
 2
  back, and my book on the history of the one person, one vote
 3
   cases tells that story of the importance of counties.
  looked at the location of the counties in which those -- that
   those districts were positioned.
 6
              But my question was, who's the first person to ever
 7
  use that theory in a redistricting case alleging racial
 9
   gerrymander?
        I don't know what you're referring to as a theory. This
10
   isn't -- you mean the idea that counties are the basis for
11
12
   redistricting? That's old. I think it comes from England --
        Well, I think my question is more straightforward, Doctor.
13
  Have you or anyone else who has ever testified in a racial
15
   gerrymander case and used your envelope theory to try to prove
  that race was a predominant motive?
16
17
        The envelope isn't a theory. It's just a definition of
   the location of the district. It says the district is located
  in the -- maybe we're using the word "theory" differently --
19
   but the district is located in this area of the state. Let's
  use the county as the definition as a kind of wide-area
21
  definition. There are other scholars -- other experts who have
22
   talked about -- have used counties -- we use counties all the
23
  time when doing racially polarized voting analyses and so
25
   forth. So counties are a pretty widely accepted basis for
```

25 and out.

analyzing elections and election performance. 1 2 Let me ask my question again. Do you know of anyone who's 3 given testimony in a case where they have attempted to prove racially -- a racially gerrymandered district using your explanation of the envelope? 6 I used it in Virginia. I don't know what -- I haven't studied other reports in other cases. 7 Has it ever been acknowledged by a court? 8 9 Well, the Virginia -- Virginia has not decided yet, but we entered evidence about like the location of House districts inside counties. 11 12 Okay. Now, has there ever been a peer-reviewed law review article about this envelope concept -- since you don't like me to use the word "theory" -- the envelope concept? Has anyone written a peer-reviewed law article on that? I don't know. 16 17 You're not aware of --18 I'm not aware of that. In what case did you use the envelope theory in in 19 Virginia? Was that the Bethune-Hill case? 20 21 Bethune-Hill we used -- I used in Table 12 of my report, the calculation of the location of the counties within the set of -- the districts within the set of counties and the 23 populations that are in and out of those and the VTDs moved in

```
Was it -- I've got both reports here, Doctor.
 1
        Okay.
                                                               Do
 2
   you know was it your first report --
        I don't recall which one.
 3
        Well, I'll bring both of them up to you. We'll see if we
 4
 5
   can find that.
 6
             MR. FARR: I made a mistake, Your Honor.
 7
  apologize. If I could just have it all back. Your Honor,
  would this be a good time to take a break so I can get this
 9
   sorted out over lunchtime?
             JUDGE OSTEEN: Do you genuinely think pulling your
10
  exhibits together and being ready to move will speed things
11
12
  along?
             MR. FARR:
13
                        Sure.
             JUDGE OSTEEN: All right. Let's take -- we'll stand
14
15
   in lunch recess for an hour and resume at 1:15.
              (At 12:11 p.m., break taken.)
16
17
              (At 1:27 p.m., break concluded.)
18
             JUDGE OSTEEN: All right. Mr. Farr, you may continue
  your cross-examination.
19
20
             MR. FARR: Thank you very much, Your Honor.
21
  BY MR. FARR:
22
        Doctor, I wanted to ask you just a couple of questions
   about compactness to wrap that subject up.
24
        Okay.
  Α
        Do you believe this compactness -- would a compactness
25
```

```
score above -- on Reock above .2, would you agree that that's
  not considered a low score if it's above a .2?
 2
        Correct.
 3
 4
        That was easy.
 5
             Okay. Now, I want to talk to you about the part of
 6
   your report which begins on page 7, I think, or maybe page 6
 7
   about how many cities and counties CD 1 and CD 12 split.
 8
        Which report are we looking at?
 9
        It's your first report, which is actually Exhibit 17?
10
        Yes.
        And I wanted to ask you in preparing this report, are you
11
  aware of the concept of satellite annexation? Do you know what
  that means?
13
        I don't know what that is.
14
15
        So since you don't know what it means, you didn't take
  into account the satellite annexation in evaluating how many
   cities had been divided into different congressional districts?
18
   Α
        No.
        Okay. And for Congressional District 1, did you -- did
19
  you study the amount of population that was in some of the
21
  cities that were divided?
        In reference to -- which part of the report are you
22
  looking at?
23
        Well, you talked -- in CD 1, you said that there were --
24
   in the 2011 version of Congressional District 1, you stated
25
```

- there were 22 divided cities and towns. 2 Correct. 3 And my question is did you -- did you look at the portions of the cities that were divided to determine how many people lived in the portions that were divided? 6 No, I did not. 7 All right. And then you've testified that Congressional District 12 in the 2011 version divides 13 cities or towns? 9 Yes. Did you analyze how many cities or towns the 2001 version 10 divided? 11 12 I believe it was the same. 13 Oh, you think it was the same? I think it was. 14 lΑ 15 It's not --It's not shown here. 16 Α 17 Okay. You don't have that in your report? 18 lΑ Right.
- All right. Now, Doctor, would you agree there's a very 19
- high correlation between African-Americans and the number of
- 21 them who vote for Democratic candidates?
- The percentage of African-Americans who vote for 22
- Democratic candidates tend to be in the 90 percent range.
- 24 Okay. And that's much higher than the percentage of
- whites who vote for Democratic candidates, is it not?

- A Depends on the area. There's some areas of the United

 States that -- where that's equally high; but in my analyses of

 North Carolina, typically it's much lower than that among the

 white population.
- Q So your understanding is North Carolina whites vote for
 Democratic candidates at a much lower rate than blacks vote for
 Democratic candidates?
- 8 A Correct, on average throughout the state.
- 9 Q All right. Thank you. Now, I want you to turn to page 9
 10 of your first report. Okay. And this is where you described
 11 the two different tests you performed using registration
 12 statistics that emulate concept and looking at the VTDs that
- were moved in and out, is that right?
- 14 A Correct.
- 15 Q Now, in paragraph 20, the last sentence says, "If the
 16 lines were drawn without respect to race, one would expect the
 17 white and black registered voters would have approximately the
 18 same likelihood of inclusion in a given Congressional
- 19 District." Do you see that?
- 20 A Correct.
- 21 Q And that's a statement you made in reference to your envelope concept?
- 23 A Correct.
- Q All right. Doesn't that assume that whites and blacks are voting for Democrats at the same percentage?

- If there's a difference, then that would push me to 1 2 dig deeper, which is why we look at the party given race question and then the race given party. 3 Okay. But you've admitted that blacks vote for Democrats at a much higher rate than whites vote for Democrats in North 5 Carolina, is that right? 6 That's what I testified, yes. 7 Okay. So even though you say that blacks voted a higher 8 rate for Democrats than whites, you would still expect that if lines were drawn without respect to race, one would expect the white and the black registered voters would have the same 12 likelihood of inclusion? Do you still stand by that? 13 Yes. Okay. And then let's look at your 21 where you're talking 14 about your analysis of Voting Tabulation Districts. You looked at the ones that were moved into 12 and ones that were moved 16 out, correct? 17 18 Correct.
- In 21 you say, "If changes in district lines are unrelated 19
- to race, we expect the composition of the VTDs moved into a
- 21 district to be similar to the composition of the VTDs moved out
- of a district on average." Do you see that? 22
- 23 Α Correct.
- Doesn't that assume the blacks and whites are voting for 24
- 25 Democrats at the same percentage?

As with the previous analysis, it would be an 1 expectation, and then the question if there is a difference is 2 3 to dig deeper and to determine whether there is a difference between the incidents with which blacks are moved in given their party versus the incidence with which Democrats are moved in given their race, for example. 6 7 But you don't think, Doctor, that if the goal of the legislature is to draw District 12 to be a stronger 9 Democratic district, you don't think the result would be that there would be more black voters in District 12 in 2011 than there were in 2001? 11 12 So these tests described here just state what the expectation would be under that supposition. Then if that 13 supposition -- if the expectation holds true, then I would dig 14 15 deeper. Had it turned out that whites and blacks in these areas were moved into and out of these districts at the same 16 rate, then I would have stopped the investigation and said it 17 doesn't look like there's any racial effect here. But that test, since it failed, led me to dig deeper. So that's --19 that's the process that I followed in analyzing the data. 20 So even though you agree that blacks vote at a higher rate 21 for a Democratic candidate, you're saying that there's an equal 22 likelihood that a white person would be moved into District 12 23 if the intent of the map drawer was to make the district a 25 stronger Democratic district?

- 1 A The test is to see if there's a difference and, if there's
- 2 a difference, to move to the next test.
- 3 Q Okay. I want to look at Table 2 on page 23 of your
- 4 report, Exhibit 17. Are you there?
- 5 A Yes, I am.
- 6 Q And what was the purpose of this table?
- 7 A The purpose of this table is to describe the racial
- 8 composition of the districts.
- 9 Q Of which district?
- 10 A Well, it presents the data for all the districts, but my
- 11 focus was on CD 1 and CD 12.
- 12 Q Okay. And is this for the 2011 Plan?
- 13 A Yes, the Rucho-Lewis map.
- 14 Q And you didn't do one of these charts for the 2001 Plan?
- 15 A No.
- 16 Q All right. And the black category you're using here is
- 17 any part black not Native American?
- 18 A Correct.
- 19 0 So that would be the AP black that we've talked about
- 20 before?
- 21 A Correct.
- 22 Q And the white is single-race white non-Hispanic?
- 23 A Correct.
- 24 Q And that would be individuals who are white but not
- 25 Hispanic?

- 1 A Correct.
- 2 Q Okay. Now, let's turn to Table 3, and this is your
- 3 envelope concept for the 1st and 12th District, is that
- 4 | correct?
- 5 A Yes. This is the analysis of the populations moved into
- 6 the CD 1 and CD 12 in the envelope of counties that surround
- 7 those districts.
- 8 Q All right. So like when it came to divided counties and
- 9 divided cities, you compared the 2001 Congressional District to
- 10 the 2011 Congressional District, correct?
- 11 A You mean in doing this analysis?
- 12 0 Yes.
- 13 A Yes.
- 14 Q Okay. You didn't do an envelope analysis of the 2001
- 15 districts?
- 16 A I do later.
- 17 Q Okay.
- 18 A When we divide it finally into race and party.
- 19 Q Did you do an envelope analysis of any of the alternative
- 20 proposed congressional plans in 2011?
- 21 A No, I only analyzed the Rucho-Lewis map and the 2001 to
- 22 2011 baseline map.
- 23 Q Okay. Now, Doctor, if you were drawing a majority-black
- 24 district in Northeastern North Carolina, do you know of any way
- 25 to do that district without having a very high percentage of

- 1 the individuals in the envelope being African-American?
- 2 A I've never tried to draw a map for North Carolina. I've
- 3 not been asked, so I don't know what the difficulty or ease of
- 4 doing that would be.
- 5 Q Okay. Would you expect -- did you know that Eastern North
- 6 Carolina is one of the lower population areas in the state?
- 7 A Yes, based on county population statistics.
- 8 Q Okay. Wouldn't it be likely or wouldn't you expect if you
- 9 drew a majority-black district in Eastern North Carolina that a
- 10 very high percentage of the individuals in the envelope who
- 11 were put in the majority-black district would be black?
- 12 A I don't know. I haven't tried to draw a map there.
- 13 Q So you haven't tried -- you haven't analyzed how the 2011
- 14 map was drawn as compared to the way it could be drawn without
- 15 having 71 percent of the black residents in the envelope ending
- 16 up in the majority-white district?
- 17 A The question, as I understand it, asks me a counterfactual
- 18 which is how could I conceivably come up with a map, and I
- 19 | haven't tried, so I don't know how to answer the question.
- 20 Q Okay. So you haven't really compared the 2011 1st
- 21 | District against other possibilities for drawing that district?
- 22 A No, I have not.
- 23 Q All right. I want to ask you about Table 4, and could you
- 24 again explain what this is?
- 25 A This is the analysis of Voting Tabulation Districts that

were kept in the core of these districts, Voting Tabulation Districts that were moved in and Voting Tabulation Districts 2 that were moved out, and racial composition is measured by the 3 registration statistics. Okay. Now, you've used the term "racial sorting." 5 6 Yes. Who came up with that term? Was that yours, or did 7 someone else come up with that term? 9 It's a common term to sort people into bins to move them linto blocks. 10 Okay. Has that been adopted by a court as far as you 11 12 know, the term "racial sorting"? I don't know. 13 So in this analysis, you state that the core of CD 1 --14 that's the part that was in both the 2011 district and the 2001 district? 16 17 Correct. 18 And that was 56.4 percent black? Correct. 19 20 Would that indicate racial sorting to you, as you used the 21 | term? The question is when you approach -- when the person who 22 drew the map approached the district, perhaps they were looking 23 at -- you know, this is a hypothetical. Maybe they were

looking at race. They have a decision to make about which

- areas to keep in the district, which areas to move out, and
 which areas to move in, and whatever guided their
 decision-making had the effect of choosing areas that were kept
 in that had very high black concentrations.
- Q But you didn't go back and look to see how this was done in 2011. You didn't compare, say, for example, the '97 1st District to the 2011 1st District?
- 8 A No, I did not study the '97 version of the district.
- 9 Q And the 1st District was underpopulated by 97,500 people?
- 10 A That's my understanding.
- 11 Q And it was the most underpopulated of the congressional districts in North Carolina in 2011?
- 13 A I don't know if it was the most underpopulated. I do know 14 that it was underpopulated by that amount.
- Q Okay. Now, you've testified -- or your chart, I believe, says that the any part black voting-age population for the 1st Congressional District under the -- under the 2010 Census was over 48 percent, something like that?
- 19 A You're referring to Table 2, I think?
- 20 Q Yeah, I --
- 21 A Somewhere in that neighborhood -- yes, somewhere in that 22 neighborhood.
- Q Do you think in order to add 75,000 people to that
 district and keep the percentage at 48 percent, would the map
 drawer have to have looked for black voters to put in that

district to keep it at 48 percent? 2 I don't know. Again, that seems to be asking 3 counterfactual about how the configuration of all the areas near -- around it and what would be done could look like. So the counterfactual would be could I have drawn a map that would -- had good properties and could -- followed traditional 6 7 districting properties and, you know, include -- I don't know if I could have just grabbed all of Eastern North Carolina and 9 made such a map. 10 But you haven't attempted to do that? I have not. 11 12 Were you here when Congressman Butterfield testified 13 yesterday? Yes, I was. 14 Α 15 And did you hear him say that he thought that the district should be kept at at least 47 percent black? 16 I recall there was a discussion about that. 17 I don't remember the exact number. So in order to keep the district at 47 percent 19 black if they -- if that had been the goal of the map drawer, 21 they would have had -- the map drawer would had to have made sure that at least 47 percent of the 75,000 -- or 95,000 added 22 to the district were black? 23 24 Well, keep in mind that the racial composition depends on who's moved in and who's moved out, and its precepts can be 25

quite complicated about like what areas you're moving in and To keep it at 47 percent, some additional black 2 population would have to come in, but I don't know how easy or 3 hard that would be to do. Now, in the Bethune-Hill case, you looked at the election 6 results for the VTDs that were moved out of the various districts versus the ones that were moved in, correct? 7 Correct. 8 Α 9 And you didn't do that in this case? 10 What do you mean? You didn't look at the election results for any elections 11 for VTDs moved in or out of the 1st or 12th District? 13 Α No. Now, do you think that as a result of the -- let's look at 14 District 12, for example. Do you agree that John McCain probably did better in the VTDs that were moved into District 12 than the ones who were moved out? 18 I have no idea. Did you say in your deposition that you expected that 19 would be so? 20 I expected it to be so, but I don't know if that was true. 21 Okay. And would you expect or predict, as you said in 22 your deposition, that McCain probably did worse in the 23

districts that were moved into District 12?

That would be my expectation.

```
1
        Now, you have nothing in your report about how McCain did
 2
   in the VTDs that were moved in or out of these districts, but
   did you not look at that before you prepared your report?
 3
        Nope.
        You didn't tell me in your deposition you looked at how
 5
  McCain had done in the VTDs?
 6
 7
        I don't recall. I mean, I -- I'm sure I did some analyses
  back when I started analyzing this case, but.
        Okay. Could you turn to page 114 of your deposition.
 9
  What we're going to do at this time so that the court reporter
  gets it is I'm going to read the question, and I'm going to
  have you read the answer. Is that okay, Doctor?
12
13
        Certainly.
        All right. I'm on page 114, line 12. I asked you this
14
15
   question:
                     So, well, do you have an opinion if we just
16
              "Okay.
  looked at the VTDs that were moved out of Congressional
17
  District 12 versus the ones who were moved in, would you have
  an opinion on whether the ones that were moved out had a higher
19
   percentage of vote for McCain than the districts that were
20
21
  moved into District 12?"
22
             And what was your answer?
        "That would be my prediction."
23
24
        On line 29, what did you say?
25
        Sorry -- I'm sorry, I'm on page 115.
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1 On page 114, line 20. 2 "No, not offhand, no." 3 And then I said: "You didn't look at that?" And then what was your answer? "I think I did look at it, but it's not in the reports." 5 So you did look at how McCain did in the VTDs that were 6 7 moved in and out of District 12, but you didn't include it in 8 your report? 9 Well, I looked at the relationship of the Obama vote and the registration data and made a decision about -- including the registration data. 11 12 Yes, but, Doctor, that's not my question. My question was I had asked you in your deposition did you look at how McCain did when the VTDs moved in and out, and you said that you did, 14 is that right? 15 16 My understanding, recalling this part of the deposition, was I looked at the relationship between the '08 data and the 17 registration data, and I presented you with registration data, and I don't recall actually doing the analog of Table 4 for 19 McCain/Obama. I might have, but I don't recall it. 20 Well, your deposition speaks for itself, sir. We'll move 21 22 on. 23 I want to turn to your maps that you have in your first report, which is Exhibit 17. Now, I just have a few 24

questions about these maps, Dr. A. You don't have a chart

- there showing what the black percentage is based upon the shading that you have in these maps, do you?
 - A No, the footnote --

- Q So we don't know what the different shades mean as far as what the percentage of the black concentration is because it's
- 6 not explained in your report?
- 7 A Yeah, my recollection is these are deciles.
- 8 0 Your recollection is what?
- 9 A That these used the deciles. I did the maps several ways.
- 10 I did them as -- divided them into 25th percentiles and so
- 11 forth. I did the map several ways.
- Q Okay. But you didn't have a ledger in here so we could
- 13 tell what these shades mean, right?
- 14 A Right. They're just -- they're relatively higher.
- 15 African-American concentrations are relatively lower.
- 16 Q Okay. But we don't know what the difference is between
- 17 the different shades?
- 18 A I could look it up.
- 19 Q But in looking at this exhibit, we can't tell?
- 20 A I don't remember what the exact numbers are.
- 21 Q And this exhibit doesn't explain it?
- 22 A No.
- 23 Q Now, you also -- this is a comparison of the 2001
- 24 Congressional Districts 1 and 2 versus 2011 Congressional
- 25 Districts 1 and 2. Did you make this comparison for any of the

alternative 2011 proposals? No, I did not. 2 3 So there was a proposal offered by the Democratic leadership called Fair and Legal. You didn't analyze how it compared to the 2001 Plan as far as the black population that was added? 6 No, I did not. 7 And there was a plan proposed by the NAACP, and you didn't 8 look at that one either, did you? 10 No, I did not. And you didn't go back and compare how the black 11 population was added between the '97 plan versus the 2001 Plan? No, I did not. 13 lΑ All right. Now, I want to turn to Table 5, and explain to 14 15 me what this is. This is the number in percent of registered voters of each 16 race and each party who are in CD 1 from the set of counties in which CD 1 is located. So the CD 1 was located in different counties in 19 2001 than is located in 2011, correct? 21 Correct.

Okay. So registered voters in the envelope would include

all of the registered voters that were in all of the counties

25 A This is for the Rucho-Lewis map.

that were in the 2001 version of CD 1?

22

Correct.

I'm sorry. Thank you. This includes all of 1 Oh, okay. the registered voters in all of the counties that are included in the 2001 version of Congressional District 1? 3 Yes. Okay. And then I have a question about how did you --5 6 when it says Democratic white and black, what does white mean? 7 Is that non-Hispanic white, or is that white including Hispanics? 8 9 This is from the registration data, so this is you identify as white. There's no overlap of white and Hispanic the way the registrar records race, as I understand it, and I 12 believe -- to clarify the earlier question, I believe this is a super set of the counties that were in either version of the 14 map. 15 Excuse me? I believe this is the super set of counties that are in 16 either version of the map. There's only a small difference, 17 but I believe that's correct. Okay. Well, Durham County was added to --19 0 20 Correct. Α 21 0 That's a lot of population, right? 22 Sorry, go ahead. Α 23 And the other district was underpopulated by 95,700 people? 24

- Q Okay. And the 2011 1st District was not in James County, right, if you look up at the map?
 - A Correct.

- $4 \parallel Q$ And the 2001 version was in James County.
- 5 A Correct.
- 6 Q All right. Now, if you turn to Table 6, if you look at
- 7 the column that says "registered voters group in envelope."
 - A Correct.
- 9 Q Those numbers are identical, and Table 6 is for the 2001 10 congressional CD 1, right?
- 11 A Correct.
- 12 Q And the numbers that you've got of registered voters in
- 13 group of envelope for the 2001 Plan in all those categories is
- 14 identical to the registered voters you have in the envelope for
- 15 the 2011 version of Congressional District 1?
- 16 A Correct. If I recall this column, it's the super set of
- 17 all the registered voters in either county -- in either set of
- 18 | counties.
- 19 Q Okay. So in other words, some of the counties that are in
- 20 this super set are not in the 2011 version of Congressional
- 21 District 1, is that right?
- 22 A Correct.
- 23 Q And some of the counties that are in the super set are not
- 24 in the 2001 version of Congressional District 1?
- 25 A Correct. That's one way to do the analysis.

Well, you didn't -- that's not explained in your 1 Okay. report, is it? 2 3 I didn't look back for the explanation, but I'll take a look if you'd like. Sure. 6 Okay. It's not clear in paragraph 20 that that was what I 7 was doing, but that is what I was doing. So when you did the envelope for Congressional 8 Okay. District 12, you used all the same counties? Correct, because the same counties are covered. 10 So you're saying that the envelope for District 1 11 12 in the 2001 Plan can be combined to form a super envelope with the counties that are in the 2011 Plan? 13 Correct, and the idea is if you draw the map, you can 14 start with the set of counties where you're going to position the map. That's the area where I'm going to locate the district, and, you know, Maptitude has counties in like 17 geographic layers. You can actually just click on counties and pull them all up and put them all in your district and then 19 carve right around them. So if you take that as the super set 20 21 of counties, just like the super set of Voting Tabulation Districts, other Voting Tabulation Districts that were in the 22 district before and the Voting Tabulation Districts that are in 23 the district after, so you can just take the super set of counties. 25

In CD 12, there's no choice to be made because it's 1 2 the same counties in CD 1. There's a choice to be made as to whether or not you do it -- you have different subsets, and in 3 this case -- in this particular result, I combined the two sets of counties just because that's a description of the area in which -- or the region, the state, in which the district is 6 located. 7 If you had just looked at the counties -- did you look at 8 the counties that were included only in Congressional District 1 in 2011 and calculate -- make your calculations just based upon the actual counties that the first Congressional 12 District was in in 2011? Yes, I did, and I had very similar results. I didn't 13 present them in the analysis, but I then had a choice to make about which analysis to present, so I presented it this way. 16 Okay. You presented this one, and you didn't explain in your report that you'd combined the envelope for the 2001 and the 2011 districts? The envelope was a set of counties where the district 19 was located. 20 21 Well, did you know that the 1997 version of the 12th District was drawn into Iredell County? 22 I did not know that. 23 Α Under your theory, could you have included Iredell 24 Okay. County into your envelope theory and created a super set of 25

counties for a super envelope? 1 Potentially. 2 3 And could you not have added some other counties? Why was District 12 limited to the six counties in which it was drawn? One could spread out, but the idea is if you start with 5 county concept of the location of the districts, which is a 6 7 very old, traditional definition of where districts are and how they're constructed and then imagine where the district is 9 located within that set of counties, then that's the definition I was following, and that's what defines where the counties were that I analyzed for CD 12. 12 Okay. Now, looking at Table 5, did you look at voting results for people that were moved into CD 1 versus the voting 13 results for any election of people who were moved out of CD 1? 14 15 I don't recall doing this exact table analogously for -- I don't recall if I did that or not. 17 Okay. And then did you attempt to discern where any of the individuals who were moved into the CD 1 lived, which VTDs they lived in? 19 Well, the VTD analysis does look at -- the VTD level 20 analogs this data. 21 Okay. Like, for example, the Republicans that you say 22 were 69 percent of the blacks within the super envelope which

- 1 A No, I don't.
- 2 Q And you don't know -- and you don't know where anyone on
- 3 this chart lived, which VTD?
- A No.
- 5 Q Okay. And also you make the point the 69.2 percent of the
- 6 black Republicans were moved into CD 1 on Chart 5, right?
- 7 A Are included in, yeah.
- 8 Q Yeah. But that's a total of only, what, 9,000 people?
- 9 A Correct.
- 10 Q And that compares to black Democrats where you say that
- 11 72.1 percent were included in -- from the super duper envelope
- 12 were included in CD 1, but the gross number for that is over
- 13 300,000, correct?
- 14 A Total black registereds are 312,000.
- 15 Q So the 69 percent of the Republicans moved in versus the
- 16 72 percent, that's not really a good comparison, is it, because
- 17 the numbers are so much lower for Republicans?
- 18 A It's exactly the right comparison. And you could draw the
- 19 comparisons another way, which is you can take -- within the
- 20 Democrats, you can take the odds ratio of the blacks to the
- 21 | whites. So you can take an odds ratio like you have in
- 22 medicine and medical tests, what's the odds of getting cancer
- 23 or something. So you can construct an odds ratio which gets
- 24 rid of that baseline problem. I didn't present them in a table
- 25 because they're hard to describe, but the odds ratio show even

- 1 bigger proportionate disparities.
- 2 Q Okay. But do you have any evidence that the map drawer in
- 3 this case looked at registration statistics?
- 4 A I don't know what the map drawer looked at beyond what
- 5 Dr. Hofeller has testified in his reports.
- 6 Q But you've read his testimony?
- 7 A I've read his reports, yes.
- 8 Q And did he say that he looked at registration statistics?
- 9 A No, he said he looked at the Obama '08 vote.
- 10 Q Okay. Table 6, this is the same as Table 5 except for
- 11 this is Congressional District -- what's different? What's
- 12 Table 5 versus Table 6?
- 13 A Table 5 is for the boundaries of CD 1 under the
- 14 Rucho-Lewis map in this area. Table 6 is the boundaries of the
- 15 \parallel CD 1 under the benchmark or 2001 to 2011 map.
- 16 Q All right. And the gross numbers of individuals included
- 17 in the 2001 CD 1 are identical?
- 18 A Correct.
- 19 $\|Q\|$ And this was a district that was underpopulated by 97,500
- 20 people?
- 21 A Correct.
- 22 Q All right. Let's turn to Table 7. Can you again tell us
- 23 what this is.
- 24 A This analysis corresponds to the race and party -- the
- 25 number and percent of registered voters in a given race and

party who are in CD 12. It's analogous to Table 5 but for CD 12. 2 Okay. Now, again you looked at registered voters, right? 3 Correct. And could you have done this same analysis based upon 5 election results? 6 7 No. You couldn't have looked at the election results in the 8 9 VTDs that were moved in and out? I don't know how blacks and whites definitely voted. 10 know how blacks and whites are definitely registered. have to make additional assumptions and make some additional 13 estimate in order to do something approximating this using election results. Because that's what's unique about the 14 registration data. They tell us how many blacks are 15 In other words, how many blacks chose Democrats, 16 registered. how many blacks chose Republicans, how many blacks chose to be undeclared, how many whites chose to be Democrats, how many whites chose to be Republicans, how many whites chose to be 19 undeclared without me making an assumption about how the 20 21 correlation between BVAP and election results implies a relationship; and as I noted earlier in testimony today, I 22 determined that a relationship between BVAP and, say, the Obama 23 vote was pretty weak compared to the relationship between black registration rates and Obama votes. So I thought the 25

5

17

19

- registration rates were the better indicator of the underlying relationship between party and race.
 - Q Registration results -- well, let me rephrase that. If you only looked at the election results, you cannot tell the race of the voter, is that right?
- A You can make an estimate of race of the voter using cological regression or ecological inference.
- 8 Q Well, I didn't say doing an ecological regression
 9 analysis. I said if you're just looking at the election
 0 results, you don't know the race of the voter.
- 11 A To the extent the two are correlated, you can make
 12 estimates about the racial composition of the areas you're
 13 moving around.
- 14 Q But the election results don't -- the election results say
 15 70 percent Obama, 30 percent McCain in this VTD, and that tells
 16 you nothing about the race of the voters, is that correct?
 - A It can tell you something about the race of the voters in an area. It doesn't tell you anything about the race of the individual voters who cast ballots or individual voters who chose the Democratic or Republican Party.
- Q Right. So if all you looked at was the election results for each VTD, you would not know what the race of the voter was -- voters were if that's all you looked at?
- A You'd know the relation -- so ecological regression is the tool we would commonly use to determine --

```
I didn't ask if you did an ecological regression analysis.
 1
  I'm asking you if you just looked at the election results by
 2
   VTD, just like you looked at the registration results by VTD.
 3
  If you just looked at the election results, that would not tell
  you the race of the voters who voted for Obama versus McCain,
 5
  would it?
 6
        Unless you did an estimate, which is a common form to --
 7
  approach to that problem. So what researchers do in this
 9
   domain is they do a data analysis to estimate what the
  proportion of blacks who voted for McCain is, proportion of
10
  whites.
11
12
             JUDGE OSTEEN:
                            Okay. The question is not how to do
   it. The question is just very simply if you look at this
13
   information, can you tell?
14
15
             THE WITNESS: People in my business estimate that
  quantity, and it's a less good estimate than these figures.
16
   But you can't tell at the individual level how individuals of
17
18
   different races voted.
19
             JUDGE OSTEEN: All right. Let's move along,
  Mr. Farr.
20
             MR. FARR: Thank you, Your Honor. Thank you.
21
  BY MR. FARR:
22
        Now, I want to turn to your second report, which is
23
  Plaintiff's, I think, Exhibit 18. Looking at -- first of all,
   let's look at paragraph 10. This exhibit, Doctor, was prepared
25
```

by you after you reviewed Dr. Hofeller's report? It was prepared -- filed February 3, 2014. 2 3 No, I'm looking at your second report. I've got a date of May 6. This is Exhibit -- I'm sorry, it's Exhibit 18. I'm looking at Exhibit 18 in my book and it says, document filed 02/03/14 at the bottom. I don't have a front page to 6 7 this. Okay. Is there a signature page at the back? 8 9 Yes, January 29, 2014. 10 Okay. I stand corrected. I'm sorry. But you prepared this after you saw Dr. Hofeller's 11 12 report? 13 Correct. Now, I want to -- you criticized Dr. Hofeller because of 14 his statement that he used the Obama/McCain race and looked at those vote totals on a VTD basis to draw up District 12. you ever -- you've admitted you've never drawn a redistricting 17 plan for a state legislature? 19 Α Correct. And your experience in drawing redistricting plans is 20 21 for -- in litigation? Correct. 22 Where you're working for lawyers who are trying to prove a 23 case? 24 Well, the remedial phase in Florida was actually 25

- 1 after the case had already been decided.
- 2 Q Okay. Now, are you aware of anybody who draws
- 3 redistricting plans for legislatures who use registration
- 4 statistics to draw maps?
- 5 A I don't -- I haven't talked extensively with those people
- 6 about what data they use. The available data varies from state
- 7 to state, and I never talked to anybody about how to draw a map
- 8 || in North Carolina.
- 9 Q Okay. So you're not aware if people who draw maps for
- 10 | legislatures use or do not use registration statistics to draw
- 11 maps?
- 12 A In Florida, they do.
- 13 Q Well, Florida has got a constitutional amendment about
- 14 certain requirements for the district, right?
- 15 A Correct.
- 16 Q Okay. So, in Florida, you say they use registration
- 17 | statistics to draw maps now?
- 18 A Registration statistics were used by -- as far as I could
- 19 tell, every mapmaker in constructing and evaluating their maps.
- 20 Q Other than Florida, are you aware of any other states
- 21 | where registration statistics were used instead of election
- 22 | results?
- 23 A In drawing? I'm not sure. I don't know of any.
- 24 Q All right. Why was it, in your view, not appropriate for
- 25 Dr. Hofeller to use the Obama/McCain race?

A There were a couple of concerns. One concern was the Obama election is pretty -- especially in '08 is pretty unique.

Q Okay.

A Obama is a black candidate, and he's a Democrat. So if there was ever a race where you couldn't pull out the two, maybe that was the race where there would be some confounding of race and party. So to look at -- and that indicator might have been an especially strong indicator of race in the areas of CDs 1 and 2. So Table 1 looks at the correlation between black registration and Obama vote in the areas of CDs 1 and 2, and also black voting-age population and Obama vote.

Third concern -- third aspect of this was that

Dr. Hofeller had suggested that rather than do the analysis
that I had done using registration data, he would have
suggested doing some analysis using voting-age population and
its relationship to presidential -- to vote. It's unclear
exactly -- he didn't spell out what that analysis was, he
didn't tell me -- give any guidance to the Court or to other
experts about what to do. So I made an analysis -- I performed
further analysis to see whether or not that would have led me
to an appropriate conclusion.

And what I concluded, the correlation between BVAP was sufficiently weak that I would not have wanted to do such an analysis or rely on such an analysis to relate -- to draw inferences about voting behavior.

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Compared to -- I might have used it if that was the only data available. But compared to using the registration data, the registration data really highly correlated data black registration data with Obama vote. So that indicated to me that in order to do the analysis that he was suggesting, that the registration data were actually more important more appropriate for that purpose. Did you -- did you look at any other election results in Congressional District 1 or 2 on VTD basis? Did you look at, say, for example, the election -- actual results, the votes in the VTD for any other race besides Obama and McCain? No. So you didn't test your theory that Obama/McCain might be more -- might be more of a function of race than support for Democratic candidates by looking at the election results for some other election and the VTDs that were in CD 1 and CD 12? The suggestion, as I understood Dr. Hofeller's report, was that we -- I should have done an analysis relating Obama vote, which was his -- Obama '08 vote, which is his indicator to BVAP, as opposed to doing the analysis registration. And my analysis in Table 1 is designed to show that analysis registration is, in fact, a much closer indicator of Obama vote. Doctor, what -- given what you've testified about the Cromartie case and your understanding of what the Supreme Court

```
said, why wouldn't you have checked Dr. Hofeller's testimony by
 1
  looking at other election results in the VTDs? Why did you go
 2
   to registration instead of election results?
 3
        I was being responsive to Dr. Hofeller's report in that
   specific analysis in that table.
 5
 6
        Okay.
               Now, I want to talk about Table 1. I'm getting
 7
   toward the end of my questions of you, Dr. A, and I just have a
   few more.
 8
 9
             Table 1 is your correlation chart. Do you see that?
10
        Yes.
  lΙΑ
        Now, what data did you use to make this chart?
11
12
        I used -- this is at the VTD level, so --
        The what level?
13
        The Voting Tabulation District level. So I took the black
14
15
  voting-age population aggregated to the voting tabulation level
  and the white voting-age population as a percentage of
16
   voting-age population aggregated to that level, and the Obama
17
18
  vote aggravated to the voting tabulation level -- Voting
  Tabulation District level.
19
20
             I also took the black registration data as a
21
  percentage of all registered voters aggregated to that level
  and the white voting -- white registered voters aggregated to
22
   the -- as a percentage of all registered versus aggregated to
23
  the voting tabulation level, and then I ran the correlation
   between the Obama vote and each of those indicators across
25
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25

Voting Tabulation Districts, that is, how much does it change or how much does it vary together, whatever the racial 2 indicator is, and the Obama vote share at the Voting Tabulation 3 District level. Okay. So let's talk about this for a second, because --6 did you do something called a scattergram? 7 I don't recall making a scattergram of this. Is that what you typically do when you do one of these 8 9 correlation reports? You draw a line, and you've got points above the line and below the line? Well, correlation is a statistic. It's a computation of 11 12 the product of the two numbers, the Obama number and the racial 13 number, divided by the standard deviation of the Obama vote across Voting Tabulation Districts and the standard deviation 14 of the racial indicator. You can make a plot in connection with it. The plot is not the correlation, but the plot shows 16 17 relationship. 18 Did you do such a plot? I don't recall. 19 20 If you -- you didn't attach one to your report, did you? 21 lΑ No. 22 And you didn't attach your calculations to the report? No, the computer did that. 23

for example, you've got an entire state black VAP -- what does

Okay. And so, when we're looking at -- just to take one,

that mean "black VAP"? 1 2 That's the correlation between Obama's percent of the 3 two-party vote in every Voting Tabulation District in the entire state correlated with the black percentage of the voting-age population in every Voting Tabulation District in 5 the state, and the relationship between them as I just 6 7 described using that formula, which is the formula for Pearson's correlation. 8 I had a basic question. When you say "black VAP," 9 Okay. what black VAP are you referring to there? 10 Any part black. I'm being consistent with --11 12 Okay. And what did "white VAP" mean? 13 Single-race non-Hispanic white. Okay. And so, you've got plus 60 percent. That doesn't 14 mean 60 percent of the blacks voted for Obama, does it? 15 16 No. 17 Explain to the Court what that actually means. 18 The correlation coefficient runs from negative one to positive one. A perfect correlation that's a positive 19 relationship would be one, and you can't go above that. 20 perfect negative relationship would be negative one, and you 21 can't go below that. Zero would be absolutely no correlation. 22 23 Correlations between plus or minus .2 are usually statistically insignificant. It depends on how much data 24 25 you're looking at. Correlations that are not very strong

Α

No.

1 typically run up to about .6, .7, and then very strong correlations are usually above .7, .8, .9. 2 3 All right. So I think you said -- and if you haven't, correct me -- but wouldn't you agree that in North Carolina, over 90 percent of the African-Americans will vote for the Democratic candidate? 6 Correct. 7 Okay. So explain how that jives with the fact that you're 8 saying there's a .6 percent correlation of the black VAP in the entire state. 10 That says that if I look across the Voting Tabulation 11 12 Districts, the extent to which Obama vote covaries with or 13 moves up and down with the percent black in the Voting Tabulation Districts has a correlation of .6. It's moving up and down some, but it's not super tight. 16 Okay. Now, the black VAP, could that -- you've got a higher correlation for registered black, right? 18 Α Correct. Okay. Could the lower correlation be the function of the 19 fact that some black voters aren't voting or are not 21 || registered? Possibly. 22 Α 23 Okay. And did you ever try to correlate actual turnout of black voters versus the Obama vote?

- 1 Q Now, and of course, the registered black voters and the 2 correlation with the Obama vote, there'll be some registered 3 black voters that don't vote, correct?
 - A Correct.
- Q And that -- and for the registered black voters that don't vote, that would make the correlation lower than what it would
- 7 be if they all voted?
- 8 A Or those that crossed over and voted for the other party.
 9 Other -- a lot of things contribute to that.
- Q Yeah. But there's not many that cross over and vote for Republicans, are there?
- 12 A I wouldn't expect so --
- 13 Q Okay.
- 14 A -- but there are some.
- 15 Q But the correlation between registered blacks and Obama

 16 vote would be reduced to the extent that some registered blacks

 17 did not vote?
- 18 A That would be one of the factors that could contribute to a reduction in the correlation.
- Q Okay. And if you actually looked at the actual turnout by black voters and tried to correlate that to the Obama vote,

don't you think that the correlation would be higher than what

- you've reported for voting-age population and registered black
- 24 | voters?

22

25 A May or it may not be, I'm not sure. But the correlation

```
in CD 12 between black registered voters percent and Obama
   percent couldn't get much higher.
 2
 3
               But I'm looking at the Table 1. Isn't it true that
   the correlation might be reduced by the fact that some black
   voting-age individuals are not registered and some of the
   registered blacks do not vote?
 6
 7
        Those could be explanations. Keep in mind this table is
   prepared responsive to Dr. Hofeller's comment that I should
 9
  have done something involving a relationship between vote share
   and black voting-age population. And the point, in the context
  of this response report, is to show that, in fact, the numbers
11
12
   I'm looking at, the black registration rate, are, in fact, a
   much stronger indicator, which confirms that that was the right
13
  decision.
14
15
        Yeah, but you didn't look at the turnout numbers.
  didn't attempt to correlate the actual black turnout with the
   Obama vote?
17
18
        No, but the analysis -- this is responsive in the context
  of an entire analysis that begins and sweeps through geography,
19
   racial composition of districts, and then focuses on
20
  registration to see how the racial composition of the districts
21
   is being determined, and then testing race versus party.
22
   this is responding to a criticism that I looked at the wrong
23
   data because I should have looked at some other data.
                                                          And the
25
   other data, as far as I could tell from Dr. Hofeller's report
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that I should have looked at he recommended, was black voting-age population.

Those are just saying -- the force of his criticism is I shouldn't have done that. I did -- given the two, I should have done this one. And I can't imagine, especially in the area of CD 12, finding a stronger indicator.

Turnout may or may not be discorrelated, depends on who else is turning up in the area. All the black voters might have turned out in an area. But the turnout is also driven around by the denominator, which is the turnout of all the other groups. So I'm not sure if turnout would have been more strongly correlated or less strongly correlated.

- Q Okay. All right. Now, Table 2, you analyzed the city of Durham, and you looked at how many blacks and whites were included in CD 1 versus CD -- whatever the other Congressional Districts are in Durham County, correct?
- 17 A Correct.
- Q Now, did you look at any other counties -- or did you look at any counties to make this analysis under the 2001 1st
- 20 Congressional District?
- 21 A No, I did not.
- Q So you didn't look at any other divided counties in the
 1st Congressional District to see how they might compare with
 Durham in this analysis that you've done in your report?
- 25 A No. This analysis is responsive to a comment by

Dr. Hofeller that one of the reasons for shifting the district around was to capture urban areas because that is where the 2 population growth had been. The major urban area that was 3 captured in the redrawing of CD 1 was city of Durham and parts of county of Durham. So I decided to analyze what actually happened in the redrawing of CD 1 in the area of the city of 6 7 Durham and the county of Durham to see if this was, indeed, capturing an urban area as an urban area or just capturing the 9 blacks in that urban area. And what I found was it predominantly captured the blacks in that urban area. But you didn't look at -- how any of the other divided 11 12 counties, either in 2001 or 2011, compared in terms of the percentage of the black population that was in the 13 majority-black district versus that percentage that was out of 15 the black district? No, I just looked at the city of Durham and the county of 16 Durham. 17 18 Okay. And did you attempt to go through any of these districts to compare the percentage of black population, say, 19 for example, in Congressional District 1 versus the percentage 20 of black population in the other Congressional Districts that 21 might be in the county? 22 23 Say that again. I'm not sure I followed the question. 24 Did you ever take a county and say, for example, Durham's 25 got Congressional District 1, and I can't remember -- I know 4

```
There may be another one. Did you ever think
  lis in Durham.
  about looking at the percentage of the population in Durham
 2
 3
   County that's black that, say, is in Congressional District 4
   versus Congressional District 1?
        This is the population of the entire city and county of
 5
  Durham, so everything else is in those other districts.
 6
 7
        So the answer is you didn't do that?
        So I didn't look at specific districts except to say
 8
   whatever's not in this district is in every other district.
        All right. Now, Doctor, did you ever look to see which of
10
  the Congressional Districts were the most overpopulated?
11
12
        No.
        Okay. Would you dispute me if I told you that the 4th
13
  Congressional District was one of the most overpopulated
15
   districts in the 2001 Congressional Plan?
        I would not dispute you.
16
17
        Okay. And can you tell me -- confirm for me right now
   that Durham County was in the 4th District in the 2001
  Congressional Plan?
19
        Yeah -- yes, it looks like it's entirely contained.
20
             MR. FARR: Okay. That's all I have, Your Honor.
21
  Thank you.
22
23
             JUDGE OSTEEN: Redirect?
24
25
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REDIRECT EXAMINATION

- 2 BY MR. HAMILTON:
- 3 Q Yes, Your Honor, just a couple of questions here. Let's
- 4 start with where we just left off, Table 1, Exhibit 18. That's
- 5 the reply report. Do you have that there in front of you?
- 6 A I do.

- 7 Q So you were looking here to address a critique leveled by
- 8 Dr. Hofeller, is that right?
- 9 A Correct.
- 10 Q And of the -- your conclusion was that the Obama share of
- 11 the two-party vote was very highly correlated to the black
- 12 registered voters in CD 12, is that right?
- 13 A Correct.
- 14 Q And how high was that correlation?
- 15 A .92.
- 16 Q How high does the scale go?
- 17 A One.
- 18 Q Is it -- would it be -- I guess it's possible to be more
- 19 highly correlated, but that's close --
- 20 A Only if it went all the way up to one, yeah.
- 21 Q All right. Now, he also asked about the turnout and
- 22 whether turnout might have had an effect. Do you recall
- 23 those -- that line of questions?
- 24 A I do.
- 25 Q Okay. In your experience as a social scientist studying

- the historic 2008 presidential election, how was the turnout in the black community? Was that a particularly low turnout election for the African-American community in the United 3 States? Nationwide, it was a record high. 5 6 A record high. 7 Right. All right. Before lunch, Mr. Farr asked you some 8 9 questions. He said you didn't have any idea about the political configuration in other districts and how that might have affected CD 1 and CD 12. Do you recall that line of 11 12 questions? 13 Yes. Okay. And I believe you testified you didn't know 14 anything about it, about what happened there? 16 Right. 17 Okay. But whatever it is that they did, whatever it is that they did in all those other districts and all those other parts of the states, what was the effect in CD 1 and CD 12? 19 The effect was to increase the black voting-age population 20 21 in CD 1 and CD 12 and to include blacks within each partisan group, more black Republicans, more black Democrats, more black 22 undeclareds. 23 And I think Mr. Farr covered this at least three times 24

about Bethune-Hill and the analysis there. That was a case in

- Virginia involving the Virginia State House of Delegates, that is correct? 2 Correct. 3 And you did an analysis there of the VTDs that were moved in and out of the House of Delegates Districts that were at issue, is that right? 6 7 Correct. Why is it that you looked at election results there 8 9 instead of voter registration?
- Because they don't have voter registration records with 10 race and party on the file that are available to us to analyze.
- 12 And I believe you said you had -- there was only like eight states in the United States that actually provide that kind of data? 14
- 15 Correct.
- North Carolina is one? 16
- North Carolina is one. 17
- 18 If Virginia had been another, would you have used that data in Virginia? 19
- And we used it in Florida in analyzing the map that 20 21 at the state court issue, but analyzing the performance of those districts and the racial --22
- And there's a suggestion that the Supreme Court decision 23 in Cromartie said that there's something wrong with that. Did you actually consider the relationship between voter 25

- registration and actual voter results in these two Congressional Districts in North Carolina in connection with 2 this analysis? 3 In connection with this analysis, I looked to 5 confirm that I was not crossing that -- what I view as my reading as an analyst, not as a lawyer, of the Cromartie 6 7 decision is you can look at registration statistics since they are really predictive of voting behavior. So I looked to see 8 if they were predictive, and they were, so I went ahead and analyzed them. 10 Small point. When Mr. Farr just a few minutes ago 11 Okay. 12 was talking to you about Exhibit 17 and the maps, there's eight maps in there, and the lack of a key on the shading, I think 13 you said these are in deciles. What does that mean? 14 15 I think they're in 10 percent increments. Ten percent increments. 16 17 I believe that was the map that we included. 18 Now, Mr. Farr asked you a couple of questions about looking at other election results in connection with your 19 analysis. You did look at other state-wide election results in 20 21 Virginia in these two Congressional Districts in connection with your analysis, correct? 22 23 Correct. Α
- 24 And what were those two?
- 25 The Governor 2008 and the Senate election that same year.

```
And were they more or less closely correlated with
 1
 2
  political performance than the Obama 2008 election results?
 3
        Those two other elections in 2008 were much more highly
   correlated with partisan registration than the Obama vote was.
        And the Obama vote is much more highly correlated with
 5
 6
  what?
 7
        Governor 2008.
             The Obama 2008 election result was highly correlated
 8
  with?
 9
        Black registration.
10
                             Thank you, sir. No further questions.
11
             MR. HAMILTON:
12
             JUDGE OSTEEN:
                             Anything?
                        Just very briefly, Your Honor.
13
             MR. FARR:
                          RECROSS-EXAMINATION
14
15
  BY MR. FARR:
        You studied these other two elections using your
16
   correlation analysis?
17
18
        Yes, those are correlations.
        Yes. And you didn't look at the actual vote totals by VTD
19
   for either Governor in 2008 or the Senate election?
21
        No, I did not.
                         That's all, Your Honor.
22
             MR. FARR:
             JUDGE OSTEEN: All right. You may step down.
23
              (At 2:31 p.m., witness excused.)
24
25
             MR. HAMILTON: Your Honor, at this point plaintiffs
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are prepared to rest. There's only one exhibit I think that's
 1
   still at issue that we had offered. Oh, may Dr. Ansolabehere
 2
 3
   be excused?
             MR. FARR: He may be, Your Honor. We have no
 4
   objections.
 5
 6
             THE COURT: All right. Yes, sir.
 7
                            So there's -- we've offered a number
             MR. HAMILTON:
  of exhibits. I believe they've all been admitted without
 8
   objection, and the sole remaining objection is Plaintiff's
 9
   Exhibit 13. The objection that was raised at the start of the
10
  trial was attorney-client privilege, and I'm prepared to
11
12
   address that if the Court would like to hear that.
             THE COURT: Where is 13?
13
             MR. HAMILTON: I have a sole copy I can hand up.
14
   It's going to be in there.
15
16
             THE COURT: All right. Let me get some people
   squared away on this email. Who is Brent Woodcox?
17
18
             MR. FARR: Your Honor, may I address that, Your
  Honor?
19
             THE COURT: I'll give both of you an opportunity.
20
             MR. FARR: I'll just explain the people if I can
21
  borrow this for a second.
22
             Brent Woodcox -- first of all, I'm Tom Farr.
23
                                                           That's
  who that person is, and I was the counsel to the General
   Assembly during the redistricting process. These are notes
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that I -- email that I was sending to my clients and
  Dr. Hofeller who was working with us as a consulting expert.
   So Brent Woodcox is the -- he was the redistricting counsel for
 3
   the Senate.
             Bob Rucho is the Senator Rucho who was the cochair of
 5
 6
   the redistricting committee. Dave Lewis is the -- the cochair
   of the redistricting committee. He was a representative.
 7
 8
  Jason Kay was the general counsel for the speaker. Jim Lang
 9
   was the chief of staff for the president pro tem of the Senate.
  Dale Oldham who is here in the courtroom today was associated
  with us as counsel. Then you have Dr. Hofeller and then you
11
12
   have Phil Strach, who is my partner sitting here today, and
   then Kathy Youngquist who's my secretary to whom I send copies
13
   of every email I ever send to anyone.
14
15
             THE COURT: Who is the dlodsg@aol.com?
                        That would be Dale Oldham.
16
             MR. FARR:
17
             THE COURT: Dale Oldham?
18
             MR. FARR: Dale is an attorney from South Carolina.
  He is -- he practices in the area of redistricting and he was
19
   helping us out during the 2011 redistricting process.
20
             THE COURT: Your client was the General Assembly?
21
             MR. FARR: Yes, sir. The client was actually the
22
   speaker pro tem and the -- the speaker of the House and the
23
   president pro tem of the Senate and their staffs through whom
24
25
   they operated.
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1
             THE COURT: One more, Mr. Farr; the
 2
   celticheal@aol.com?
 3
             MR. FARR:
                        That would be Dr. Hofeller.
             THE COURT: Okay. So Tom Hofeller and the
 4
   celticheal@aol are the same?
 5
 6
             MR. FARR: Yes, sir.
 7
             MR. HAMILTON: Your Honor, the document might once
 8
  have been privileged, but it isn't anymore. This document was
   not only produced but introduced into evidence during the state
   proceedings in this case. The document is scattered around.
  have a copy of it. There's copies in all these books over
12
   there. There's copies over here. Whatever privilege it --
   that once attached to this document was long ago lost as a
  result --
14
             THE COURT: So you contend it's waived by
15
  publication?
16
17
             MR. HAMILTON: That's right. And, Your Honor,
   privilege is not an objection to admissibility. The document's
  relevant. There's no question about its authenticity, and so
19
   the fact that it might once have been privileged is simply not
  a relevant objection, I don't think.
21
22
             THE COURT: All right. Mr. Farr, no challenge to the
   fact that it may have at one point been privileged, but now
23
  it's published?
24
25
             MR. FARR: Well, Your Honor, I would just say, with
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complete candor, we had no idea it had been published. 1 is in the record in the other case, it never came up during the 2 case. I don't recall anyone being examined about it in the 3 other case. The Court will understand we've actually done you all a favor in limiting the number of documents you're getting 5 so 35 volumes or whatever it is. There's quite a bit of 6 7 documents that were produced in this case; and honestly, Your Honor, we did not know this document had been produced. 8

I'll accept counsel's representation that it was produced in the *Dickson* case. I don't recall it being introduced into evidence. I don't recall it ever coming up until I saw it on this exhibit list for this case.

MR. HAMILTON: May I respond, Your Honor?
THE COURT: Um-hum.

MR. HAMILTON: The document was Exhibit 554 in the Hofeller deposition in the state case. That's the *Dickson* case and you can tell that from the sticker on the face of this exhibit. It's stickered right there. It's also on file with the North Carolina Supreme Court in connection with the appeal of the *Dickson* case. It's on file with the D-V-D that was earlier lodged with the Court in connection with this case in this court as part of the record from the state case that was presented here and then, of course, we also identified it.

THE COURT: I'm not cutting you off in term of merit, but it seems to me there's two issues; and, Mr. Farr, I don't

know if you're running out of lawyers over there in your Raleigh firm, but if it was admitted in the state court 2 proceeding, and if it is part of the record in the North 3 Carolina Supreme Court, then it seems to me at that point it's been disclosed. Now, you may have an inadvertent disclosure or 5 something like that. If you don't know at this point where 6 that document has been or how it wound up, then I think --7 I know, Your Honor, but it does have -- I 8 MR. FARR: 9 apologize for not noticing the exhibit sticker on it. The only thing that I would -- if the Court would give us overnight to check on this. I want to see if we raised an objection to it 11 12 in the deposition. If we didn't do that, then I would say we waived it. 13 THE COURT: Since it's coming up now, that's what I 14 was going to suggest is that whenever we take a break this 15 afternoon, you get somebody checking to see where this document 16 has been as best you can, and then we'll address it tomorrow. 17 18 So I'd suggest at this point that we take it subject to anything you want to present to us by, say, noon tomorrow. 19 20 That'd be fine, Your Honor. MR. FARR: Thank you, 21 Your Honor. 22 MR. HAMILTON: Thank you, Your Honor. With that, the plaintiffs rest their case. 23 24 THE COURT: All right. How do you want to proceed? It seems to me at this point, if you need to make some motions, 25

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you can, but I'd like to keep plowing ahead with the evidence.

MR. FARR: Your Honor, we assumed that it's not necessary for us to make a motion at this case. I'm sure the Court's going to hear all the evidence. One thing I would say is that we might need a few minutes to get our exhibits reoriented.

THE COURT: All right. I am going to say this while I'm thinking about it. I am really concerned -- you all have done a good job with the booklets. I really -- I personally really appreciate the way you've handled the exhibits. am worried about is that we're -- we've got some number differentials that came up during the first part, and then we've got some 17s and 18s but they have stickers on them that may be different from the numbers, so at some point in time, it doesn't have to happen now, but before we close out and finalize this record, I think the lawyers or the paralegals or somebody are going to need to go through and make sure our official exhibit record matches what we've been looking at as we go along, and that may or may not be an easy task. doesn't need to be done now. I'm not suggesting now, but within a week or so of trial, we'll need to have that squared away.

MR. HAMILTON: Absolutely, Your Honor. We've tried to -- with respect to all the notebooks handed up, we've tried to make sure that they're simply duplicates of what's there and

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the whole reason was to make life simpler and easier, and I
 2
  hope we haven't inadvertently made it more complicated.
 3
             THE COURT: As far as I'm concerned, it has for me,
  but it's been a little quirky in terms of the way the numbers
  have been. Okay, this is Exhibit 5, and then we have
 5
  Defendant's Exhibit -- this Plaintiff's Exhibit 5, but the
 6
   sticker says Defendant's Exhibit 5.65. You know what I'm
 7
   talking about.
 8
 9
             MR. HAMILTON:
                            Absolutely.
10
             THE COURT: We'll get that squared away after.
  minutes to get your exhibits ready together?
11
12
             MR. FARR: That would be plenty, Your Honor.
13
             THE COURT: All right. Let's take a recess for 10
  minutes.
14
              (At 2:43 p.m., break taken.)
15
16
              (At 2:57 p.m., break concluded.)
17
             THE COURT: All right. So, Mr. Hamilton, we've got a
18
   little housekeeping matter?
19
             MR. HAMILTON: We do indeed, Your Honor. Thank you
   for the remainder we've worked with the clerk who has been
20
   extremely helpful in pointing out -
21
             THE COURT: Ms. Powell is very good.
22
23
             MR. HAMILTON: I can certainly agree with that.
  There are four exhibits that were identified during the course
24
25
   of plaintiff's case, but not moved into evidence. I've talked
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with Mr. Farr, and ask the Court to reopen plaintiff's case, he
  has no objection, to move the admission of these four
 2
 3
   documents.
                         All right.
 4
             THE COURT:
                            They are D511 -- 5.11, D19, D118, and
 5
             MR. HAMILTON:
 6
   D30.
 7
                               So exhibits marked D5.11, D19,
             THE COURT:
                         D30.
  D118, and D30 are admitted in the plaintiff's case.
 8
 9
   objection?
10
             MR. FARR: No, Your Honor.
                         All right. Those exhibits are admitted.
11
             THE COURT:
12
             All right.
                         So a couple of housekeeping matters from
13
   this side. I'm going to start backwards. Tomorrow,
   anticipating the close of evidence, we've talked about having
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15
   closing arguments. I think from our perspective in terms of
  helpfulness to the Court, rather than the standard closing
16
   argument, our preference would be to have an argument like a
17
18
   motion or circuit argument where you may get questions -- both
  sides may get guestions from the Court. So prepare -- we'd
19
   like to set a time, and the time is going to be related to how
20
21
  much time is left when all the evidence is in, but you should
  prepare yourself to deliver a closing argument, but you should
22
   be ready to answer questions about your case from any of the
23
   three judges.
24
             All three of the judges up here, generally speaking,
25
```

```
I think I can speak for all three of us, backing down, we do
 2
  like to ask questions. We've been very, shall we say,
   courteous of the presentation of the evidence, but going --
 3
   from this point forward, it may be that you get some questions
   from the Court -- or the witness gets some questions from the
   Court. If so, you know how that procedure works. Just stand
 6
 7
   down with your questions and let the judge get finished with
   whatever they want to ask.
 8
 9
             Witnesses for -- who do you anticipate calling during
   the course of the defendant's case? If you can give us an
10
   outline now.
11
12
             MR. FARR: Dan Frey who works for the General
13
   Assembly will be our first witness.
14
             THE COURT: Dan Frey?
15
             MR. FARR: Yes, sir. Dr. Hofeller, and I'm not quite
   sure what order, but Senator Rucho will testify and
16
   Representative Ruth Samuelson will testify -- former
17
18
   Representative Ruth Samuelson.
                         Sanderson?
19
             THE COURT:
             MR. FARR:
                        Samuelson.
20
21
             THE COURT:
                         Samuelson.
22
             MR. FARR: Who many of us wish would have stayed and
   became Speaker of the House. She went back to her family.
23
                                                                So
   those would be our witnesses, Your Honor.
24
25
             THE COURT: All right. You may proceed to call your
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first witness.
 1
 2
             MR. PETERS: Thank you, Your Honor. The defendants
 3
   call Dan Frey to the stand.
              (Witness sworn by the clerk.)
 4
 5
                               DAN FREY,
 6
               DEFENDANT'S WITNESS, SWORN AT 3:01 P.M.
 7
                          DIRECT EXAMINATION
   BY MR. PETERS:
 8
 9
        Good afternoon, Mr. Frey. The first thing I'm going to do
   is encourage you to do your best to talk directly into the
  microphone, and even then you probably need to speak up just to
11
12
   make sure everybody can hear.
13
        All right.
        Could you state your name for the Court and give a brief
14
  educational -- your brief educational background.
16
        My name is Dan Frey. My educational background, most
   recently I received a master's degree in geography.
17
18
        All right. And what is your occupation?
        I work for the North Carolina General Assembly for the IT
19
   Division, and I work specifically with things related to
21
  geographic information systems, and so my role related to
  redistricting is to support and make sure everyone has hardware
22
   and software and to assist in compiling the database that's
23
  used for redistricting.
24
        I'm sorry. I didn't catch the last part of what you said.
25
```

A Part of that is to pull together the different sources of data to put together the database that's used in redistricting.

- Q All right. And how long have you been in that position?
- 4 A Since 1995.
- Q All right. Have you participated in some way or another in all the redistricting efforts since 1995?
- 7 A Yes.

3

- 8 Q Now, are you part of what's sometimes called the central 9 staff or the nonpartisan staff at the General Assembly?
- 10 A That's right, yes, I am -- yeah, I'm nonpartisan staff as
 11 Well. Fulfill requests from members of either party.
- Q Would it be a fair characterization to say that the central staff is available to any member of the General Assembly to do whatever tasks for them that member might
- 16 A Yes, absolutely.
- 17 Q All right. So, in essence, you work for all 170 members?
- 18 A That's right.

request?

- 19 Q Mr. Frey, I'd like to just take you through what are going
- 20 to be a number of exhibits, I believe, just so you can give
- 21 some context for them and some background on them. The first
- 22 thing, I believe you'll find at your stand a notebook that's
- 23 titled Historical Congressional Maps 1991 through 2011, and
- 24 down in the bottom corner there's a blue tag that says
- 25 Defendant's Exhibit 126.

- 1 A Yes.
- 2 Q Do you see that? I'd just like to take you through what's
- 3 in this notebook so that you can identify it, give a little
- 4 background on it. Let me ask you to start at Tab 1 which is
- 5 Defendant's Exhibit 3.84. Do you see that?
- 6 A Yes.
- $7 \parallel Q$ And can you identify what that exhibit is.
- 8 A This is -- yeah, the 19 -- well, it's a map of the 1991
- 9 Congressional Plan, which was put into place well before I got
- 10 to the General Assembly. I think 1991 Congressional Base Plan
- 11 #6 is the title.
- 12 Q All right. Did you pull this information together for
- What's here for the 1991 plan?
- 14 A Yes, I think I hunted this down. Yes.
- 15 | Q And let me ask you, if I talk about a stat pack, do you
- 16 know what I mean?
- 17 A Yes, there's -- typically for when plans are introduced in
- 18 committee, there will be a map, and then there will also be a
- 19 packet of information -- packet of reports with statistics and
- 20 stuff that go along with it.
- 21 Q And is stat pack short for statistical pack or
- 22 statistical --
- 23 A Yeah.
- 24 Q And is there a stat pack with the 1991 Congressional
- 25 Redistricting Plan here?

- 1 A No, there's not.
- 2 Q And do you know why that might be?
- 3 A I don't believe one was available. I mean, this -- I was
- 4 able to hunt down a map in the legislative library, but I think
- 5 that was maybe before the -- we had nice stat map -- or stat
- 6 packs.
- 7 Q Does it maybe go back to before redistricting was -- could
- 8 be done as easily on computer and was more pen and pencil,
- 9 paper?
- 10 A Well, in 1991 it would have been Plan '90, the old
- 11 mainframe system. So certainly the technology's evolved a lot.
- 12 Q Okay. Now, let me ask you to look at Exhibit 2 -- excuse
- 13 me, Tab 2, which is Defendant's Exhibit 4.1A. Can you identify
- 14 | what 4.1A is?
- 15 A Okay. So this is a map of 1992 Congressional Base Plan
- 16 10.
- 17 Q And what is Congressional Base Plan 10 from 1992?
- 18 A This also predates my being at the General Assembly, but I
- 19 \parallel believe due to litiqation it was -- well, yeah, that it was --
- 20 this was a subsequently enacted map.
- 21 Q Now, let me ask you to look at the next page which says --
- 22 there's a sticker at the bottom that says Defendant's
- 23 | Exhibit 4.1. Do you see that?
- 24 A Yes.
- 25 Q And the page itself says Exhibit 1, fourth affidavit of

1 Dan Frey, 1992 Congressional Base Plan 10. Do you see that?

- 2 A Yes.
- 3 Q And looking at that on the next few pages, are these
- 4 materials you did prepare for an affidavit at some point?
- 5 A I believe so, yes.
- 6 Q Can you describe briefly what's on the next two pages?
- 7 A Okay. Well, these are -- I think nearly all, except maybe
- 8 for that first map, I think this stuff is all posted on our
- 9 website, but this would be a report from our Plan 90 or 1990
- 10 Redistricting System, and so it's -- you know, it's got
- 11 district totals, race breakdown for total population, and it's
- 12 just single race categories, because in 1990, they -- the
- 13 census data did not contain multi-race.
- 14 Q I'm sorry, what was the last thing you said?
- 15 A In 1990, the census data did not have multi-race
- 16 categories so, yeah, this is what was available.
- 17 | Q All right. So I know you were here earlier when
- 18 ||Dr. Ansolabehere testified about any part black, total black
- 19 and testified about ethnicity, Hispanic, non-Hispanic. Let's
- 20 talk to that just a minute. You said that at this stage the
- 21 census did not count for multi-race?
- 22 A That's right.
- 23 Q And let me back up. In the course of doing your job, do
- 24 you have to deal with census data on a regular basis?
- 25 A Yes, that's sort of our main -- yeah, one of our big data

sets we have to process. 2 All right. So what do you understand it to mean -- I'm 3 looking at the page that at the top says "district summary, total populations, all ages, " and you see columns that say "total white, total black, total American Indian, total Asian, PI, and total other." What do you understand those columns to 6 7 represent? Well, they're essentially -- I mean, those are the race 8 9 breakdowns. Those were the choices that were available for people to elect in the census; and so, you know, I mean there has been some talk of any part black and whatnot, but that 12 wasn't a factor here because this was just -- that didn't exist 13 yet. All right. And is the same true of the next page that 14 says "district summary voting-age populations"? Right, so this is basically the exact same thing but with 16 voting age instead of all ages. 18 Right. Do you know if at this time the census was inquiring about ethnicity? 19 20 Yes, they did have ethnicity. And what is the inquiry for ethnicity? 21 Well, the -- as far as the citizen is given a choice, like 22 when they fill out a census form, you know, there's a Hispanic 23 or non-Hispanic is basically the choice which is separate from

25

race, independent of race.

1 Q So when you say separate or independent of race, does that

2 mean somebody filling out the census form is asked to indicate

- 3 a race and also asked to indicate an ethnicity?
- 4 A Yes.
- 5 Q All right. So, for example, could somebody indicate that
- 6 they are white and Hispanic?
- 7 A Right, correct, any of the race categories -- you could be
- 8 in any race category and either Hispanic or non-Hispanic.
- 9 Q So someone could indicate they are black and Hispanic?
- 10 A Correct.
- 11 Q Or any of those and non-Hispanic?
- 12 A Yes.
- 13 Q All right. Thank you. Let me ask you to look at what's
- 14 behind Tab No. 3. And the first page of that is marked
- 15 Defendant's Exhibit 4.2A. Can you identify what that is?
- 16 A Okay. That's a map of our '97 House/Senate Plan A, which
- 17 was, due to litigation, we had another plan created in 1997.
- 18 | Q All right. And by this time you were at the General
- 19 Assembly?
- 20 A Yes.
- 21 Q And were you involved in doing the -- I'll call it, for
- 22 want of a better term, the support work, the data support work
- 23 | for preparing that plan?
- 24 A Yes, yeah. At this time, right. I mean, basically I
- 25 supported the redistricting system, though it had been built

1 before I got there.

- 2 Q Okay. Let me ask you to look at the next page, which is
- 3 marked with the blue sticker, Defendant's Exhibit 4.2.
- A Okay.
- Q And is this also from the fourth affidavit, your fourth
- 6 | affidavit?
- 7 A Yes, I believe so.
- 8 Q All right. If you'll look at the next two pages, I'll put
- 9 | it this way. Do these basically show the same kind of
- 10 information as were shown for the '92 plan but for the
- 11 | '97 plan?
- 12 A Yes. These are also our standard 1990 reports.
- 13 Q Right. And, again, here is there a distinction made
- 14 between someone who identifies themselves as only black and
- 15 someone who identifies themselves as partially black?
- 16 A Right, so this was still with the 1990 census data so that
- 17 | there was no -- there was not an option for parts black.
- 18 Q And thank you, for all three of these plans, the
- 19 91 Congressional Districting Plan, the '92 and the '97, is the
- 20 data for all three of those data from the 1990 Census?
- 21 A Yes.
- 22 Q Okay. And let me ask you to look at what is behind
- 23 Exhibit 4 -- I mean, excuse me -- Tab 4. The first page is
- 24 marked Defendant's Exhibit 4.3A. And can you identify that?
- 25 A This is yet another Congressional Plan. This one drawn in

1 1998 and enacted, I believe, at that time.

- 2 Q And was this, again, because of litigation?
- 3 A Yes.
- $4 \parallel Q$ And were you involved in the data support for that?
- 5 A Yes, I was in the same role.
- 6 Q All right. And behind that you'll see a document with the
- 7 sticker that says Defendant's Exhibit 4.3.
- 8 A Right.
- 9 Q Is this also from your fourth affidavit?
- 10 A I believe so, yes.
- 11 Q And behind that, you'll see some data?
- 12 A Right.
- 13 Q And, again, this data, is it based on the 1990 Census?
- 14 A Yes, same format and same report.
- 15 Q And is it providing basically the same information but for
- 16 the 1998 Plan?
- 17 A Yes.
- 18 Q All right. Now, let me ask you to look at defendant's --
- 19 I keep saying this -- what's behind Tab No. 5, the first page
- 20 is marked Defendant's Exhibit 4.4A.
- 21 A Okay.
- 22 Q Can you identify what that is?
- 23 A Yes, this is a map of our 2001 congressional plan.
- 24 Q Do you know what the name zero deviation indicated?
- 25 A Well, I believe before, like in the '90s, they didn't

1 really zero out the populations between districts so much.

- 2 Perhaps it refers to that. I'm looking over some of the data.
- 3 Once we -- I think once we got to 2000 they made the district
- 4 total populations almost exactly the same.
- $5 \parallel Q$ All right. So the title may refer to exactly the same or
- 6 as close as possible, exactly the same population between each
- 7 district?
- 8 A That would be my guess, yes.
- 9 Q Okay. And is this the plan that stayed in effect for the
- 10 decade following 2001?
- 11 A Right, right.
- 12 Q All right. Now, let me ask you to look at the next page.
- 13 It's marked Defendant's Exhibit 4.4. Is this also from your
- 14 | fourth affidavit?
- 15 A Yeah, I believe so. Okay. Yes.
- 16 Q In looking at the pages behind that, can you briefly
- 17 describe what that is.
- 18 A Okay. Well, this -- this is an -- this is a new report
- 19 | now. This is based on the 2000 Census, and this is from --
- 20 these are the reports that were in place for the 2000
- 21 | redistricting standard reports, and you can see on the far
- 22 | right there's now a multi-race category.
- 23 Q And what does that category indicate? What does
- 24 multi-race mean?
- 25 A Well, it simply means that anybody who said on their

census form that they were more than one race, and so here it's just sort of combined. Anyone who said they were more than one

- Q All right. Was there a breakdown available of the information on what races people chose where you -- it can be
- 6 broken down, or was it just all thrown into a multi-race 7 category?
- 8 A Well, in this report it was put into one column, but the 9 underlying census data was basically the same layout that came 0 out in 2010, and it has a very long and detailed field layout.
- 11 Q All right. And let me ask you to look at the next page.
 12 Can you describe that briefly.
- A Okay. So this would also be from the 2000 Census, and it simply breaks down the totals by district of Hispanic versus non-Hispanic.
- Q All right. And then the two pages after that, is that a similar analysis for voting-age population?
- 18 A Yes, voting age and -- yes, yes.

race, that's the total of those.

- Q All right. Let me ask you to look at Tab 6, and the first page behind that is Defendant's Exhibit 4.5A. Is that the same congressional zero deviation map that's behind the previous
- 22 tab?
- 23 A Yes, the same one we just looked at, same plan.
- 24 Q All right. And then the next page is Defendant's
- 25 Exhibit 4.5. Is that from -- is what follows that from your

- fourth -- an exhibit to your fourth affidavit? 2 lΑ Yes. All right. What's the difference between what's -- the 3 stat pack that's behind the map in Tab 6 and the stat pack that's behind the map behind Tab 5? 6 Well, this one is a new series of reports. This one we 7 came out with our -- well, we had to redraw House and Senate districts in 2003, and so we created a new redistricting database, and we had new reports that were associated with it, and so this is that updated report format applied to the Congressional Plan. 11 12 All right. So it's a new format based on what was -- you started using in 2003? Right, and the census data is the same, of course, because 14 nothing -- we didn't have new census data. That's my question. Is this information based on the 2000 16 Census or the 2010 Census? 18 You know, actually I need to -- I need to be a little slower in looking at this because this one is indeed the 2010. That's what these reports are from. They're from the 2011 round format which was similar in 2003, but, no, this is 21 actually 2010 Census data. 22 All right. So this was taking the 2010 Census data and 23 applying it to the 2001 map?
- 25 A Yes.

- Q All right. And let me ask you to look at -- for the stat pack it says page 2 of 9. If you look at the court filing number down at the bottom it says page 27 of 45. It says stat pack report of total population by race and ethnicity.
- 5 A Yep.
- 6 Q All right. And do you see a segment that says total 7 population by race?
- 8 A Yes.
- 9 Q Okay. And what are the categories that are listed under 10 that?
- A Well, total population by race we've got just an overall total, and then it's got breakdowns for single race white, single race black, native American, Asian Pacific Islander and
- 14 other, and it's got multi-race, which would be everybody who's
- multi-race, and then it has multi-race black, which would mean
- 16 anybody who is multi-race and one of the complement races is
- black. And then it has total black, which is the sum of the
- 18 single race black and the multi-race black.
- 19 Q All right. So just so it's clear, the column that says
- 20 NA, did you say that's Native American?
- 21 A Native American, that's right.
- 22 Q And the column that says A/PI, did you say that's Asian
- 23 and Pacific Islander?
- 24 A Yes.
- 25 Q All right. And then do you see the second group of

1 columns that says total population by ethnicity?

- 2 A Um-hum, yes.
- Q And what does that show -- or what are the columns in that? What are the categories?
- 5 A Well, it's got Hispanic -- just an overall Hispanic, and
- 6 then it's got non-Hispanic, so it's got that basic breakdown,
- 7 and then it also has white non-Hispanic.
- 8 Q All right. Let me ask you to look behind Tab 7, and the
- 9 first page is Defendant's Exhibit 4.6A. Do you recognize what
- 10 that map is?
- 11 A Yes, this is an alternative map that was submitted by the
- 12 Southern Coalition for Social Justice.
- 13 Q And do you recall whether it was submitted while the
- 14 \parallel redistricting plans were still under consideration before they
- 15 had been enacted?
- 16 A Yes, I believe when I put this out on the chronology of
- 17 our website, I think it was fairly early that we got this.
- 18 | Q All right. And looking behind that at Defendant's
- 19 Exhibit 4.6, do you see a page that says Exhibit 6 in your
- 20 | fourth affidavit?
- 21 A Yes.
- 22 Q All right. And is this information that you've prepared
- 23 for your fourth affidavit?
- 24 A Yeah, I believe so.
- 25 Q And trying to keep this moving along, is this stat pack

1 basically the same kind of information as was shown for the

- 2 last stat pack we looked at but for the Southern Coalition for
- 3 | Social Justice's plan?
- 4 A That's right. That's right. These are 2010 reports, 2010
- 5 Census data.
- 6 Q So it would have the same racial breakdowns and the same
- 7 ethnic breakdowns, is that correct?
- 8 A That's correct.
- 9 Q All right. Let me ask you to look behind Tab 8, and the
- 10 map that's marked Defendant's Exhibit 4.7A. Can you identify
- 11 what that is.
- 12 A This is one of the earlier proposed plans, Rucho-Lewis
- 13 Congress 1.
- 14 Q And proposed by whom, do you know?
- 15 A By the redistricting chairs.
- 16 Q All right. And this was you say proposed. Was this
- 17 \parallel proposed in 2011 while the redistricting process was going on?
- 18 A Yeah, as part of that, that's right, yeah.
- 19 Q Now, looking behind that, do you see a page marked
- 20 Defendant's Exhibit 4.7 that says Exhibit 7, fourth affidavit
- 21 of Dan Frey?
- 22 A Yes.
- 23 Q And is this also material that you prepared for your
- 24 | fourth affidavit?
- 25 A Yes.

Q And, again, just to keep it moving, the stat pack that's behind it, is it a similar in format to the two we just looked

- 3 at but for Rucho-Lewis Congress 1?
- $4 \mid A$ Yes, it's the exact -- exact same format or standard.
- 5 Q And it would have the same racial and ethnic breakdowns?
- 6 A Yes.
- Q All right. Let me ask you to look at behind Tab 9, and the map that's marked Defendant's Exhibit 4.8A. Do you
- 9 recognize that?
- 10 A Yes, this is yet another iteration that was put forward by
- 11 the redistricting committee chairs.
- 12 Q And were you, again, involved in doing data support for this plan?
- 14 A Yes.
- 15 Q All right. And looking behind it, do you see the page
- 16 marked Defendant's Exhibit 4.8, and it says Exhibit 8, fourth
- 17 affidavit of Dan Frey?
- 18 A Yes.
- 19 Q All right. And the stat pack that is behind that, is that
- 20 information that you prepared for your fourth affidavit or that
- 21 was included in your fourth affidavit, I should say?
- 22 A Yes, I believe so.
- 23 Q I would -- would I be correct in assuming that you
- 24 prepared this to support or to go with the plan that has been
- 25 | entitled -- called Rucho-Lewis Congress 2?

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1 A Yes, this looks like our standard report for that plan.
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- 2 Q All right. And does it follow the same format as -- that
- 3 stat pack follow the same format as the other plans we've
- 4 looked at that have a 2010 Census data stat pack?
- 5 A Yes, yes.
- 6 Q All right. And then behind Exhibit 10 -- Tab 10, exhibit,
- 7 Defendant's Exhibit 4.9A, do you recognize that map?
- 8 A Yes, basically this would be one more iteration of the
- 9 plan.
- 10 Q And behind that, you'll see Defendant's Exhibit 4.9, and
- 11 it says Exhibit 9, fourth affidavit of Dan Frey?
- 12 A Yes.
- 13 Q And is the stat pack behind that information that you had
- 14 prepared?
- 15 A Yes.
- 16 | Q And does it follow the same format as these previous ones
- 17 we've looked at that use the 2010 Census?
- 18 A Yes, it does.
- 19 Q And it would have the same racial and ethnic categories?
- 20 A That's right.
- 21 Q All right. Now, let me ask you to look behind Tab 11,
- 22 Defendant's Exhibit 4.10A. Can you identify that?
- 23 A This -- this is a plan, an alternate plan, that was
- 24 | introduced by -- yeah, Stein -- representative? Senator?
- 25 Q By Senator Stein?

1 A Senator Stein, right.

- 2 Q And was this introduced during the process of considering
- 3 districting plans, do you recall?
- 4 A Yes, this was -- yes, a formally introduced plan during
- 5 the process.
- 6 Q And behind it you'll see Defendant's Exhibit 4.10, and it
- 7 says Exhibit 10, fourth affidavit of Dan Frey?
- 8 A Yep.
- 9 Q And the stat pack that's behind that, did you prepare it?
- 10 A Yes, so that's a -- once again, that's the same format,
- 11 same information.
- 12 Q And then last one behind Tab 12, Defendant's
- 13 Exhibit 4.11A. Can you identify what that map is?
- 14 A So that -- that is the final enacted plan for 2011.
- 15 | Q This is the plan that was enacted by the General Assembly?
- 16 A Yes.
- 17 Q All right. And behind that, Defendant's Exhibit 4.11, do
- 18 you see where it says Exhibit 11 to the fourth affidavit of Dan
- 19 Frey?
- 20 A Yes.
- 21 Q And is the stat pack behind that one that you prepared?
- 22 A Yes.
- 23 Q And does it also follow the same format?
- 24 A It does.
- 25 Q And does it have the same racial and ethnic categories as

1 the other ones we've looked at that utilize 2010 Census data?

A That's correct.

- $3 \parallel Q$ All right. Thank you. You can put the notebook aside,
- 4 but I do, I'm afraid, have some more documents. All right.
- 5 Mr. Frey, again, we'll move through these as quickly as we can.
- 6 Let me ask you to look first at the first page that's marked
- 7 Defendant's Exhibit 2.60. Can you identify this document?
- 8 A Yes, I recognize this, and I believe this was one of the 9 affidavit --
- 10 Q I'm sorry, you'll have to speak up a little bit.
- 11 A I believe this is one of the ones that was in one of my affidavits.
- 13 Q Did you prepare this chart?
- 14 A Yes.
- 15 Q And what basically does this chart show?
- 16 A Okay. So this is using the 2001 Congressional Plan, but
- 17 using the 2010 Census data, and so it shows the -- for the 1st
- 18 | and 12th districts the -- who won the elections in the various
- 19 years, 2006 through 2010, their race and party.
- 20 On the far right, it just shows total population, how
- 21 they were off from the ideal population, and then the
- 22 information in the center is based on voting-age population.
- 23 There's a race breakdown. This race breakdown does single race
- 24 white and then it has any part black, so either single or
- 25 multi-race black, Native American and Asian/Pacific Islander,

other. Then it has a straight Hispanic percentage, and then it has a non-Hispanic white percentage for each district.

- Q All right. And let me ask you to look at the notes under there, and do you see a fourth note that begins with the word "note?"
- 6 A Yes.

- 7 Q Could you read that one, please.
- 8 A "Note that the white race category is without regard to 9 ethnicity, and so includes people who are Hispanic or Latino.
- 10 White non-Hispanic excludes that portion of the population."
- 11 Q All right. Thank you. Now, if you'll look at the next
- 12 document, which is Defendant's Exhibit 2.61. Can you identify
- 13 what that document is.
- 14 A Okay. So this is a similar format, but this is for the
- 15 enacted Congressional Plan using 2010 Census data instead of
- 16 when -- since it was a new plan, instead of election winners,
- 17 | it has incumbents over on the left.
- 18 Q All right. And does it show -- other than the difference
- 19 between election contest where there's an incumbent, does it
- 20 show basically the same kind of information as the previous
- 21 one?
- 22 A Yes, yeah.
- 23 Q If you'll look at the next one, which is Defendant's
- 24 Exhibit 2.62.
- 25 A Okay. So this is, once again, essentially the same

report, but this is for the Congressional Plan that was proposed by the Southern Coalition for Social Justice. 2 3 All right. If you'll look at the next one, which is Defendant's Exhibit 2.63, is that basically the same kind of --Yes, it's the same --5 6 -- but for the Congressional Fair and Legal? 7 Yes. And that was a proposed plan --8 9 Yeah, that was a formerly introduced plan during the 10 process. All right. Now, let me ask you to look at Defendant's 11 12 Exhibit 2.64. Can you explain what this one is. Okay. So this is a similar report, but instead of 13 voting-age population, it's got voter registration information, 15 and so it goes through and breaks it down for -- well, you know, after the election's winners section over here, then it's 16 got Democrats, Republicans, and unaffiliated. And under the 17 18 Democrats there's a subsection there that breaks out the white and black portions of the Democrats. 19 20 All right. Now, does this one show any distinction between non-Hispanic whites and Hispanic whites? No, it doesn't. The voter registration information, at 22 least our processing of it, that -- of that did not have a 23 cross-tabulation that would allow that. 24

All right. So would it be correct to assume that in the

1 categories here where it's identifying white population that

- 2 that white population includes both Hispanic and non-Hispanic
- 3 whites?
- 4∥A Yes.
- $5 \parallel Q$ All right. And turning the next page to Defendant's
- 6 Exhibit 2.65, does that show similar information for
- 7 Rucho-Lewis Congress 3?
- 8 A Yes. And, once again, since this is a new plan that
- 9 doesn't have election winners, instead it has incumbents, but
- 10 it's essentially the same layout.
- 11 Q And this one -- does this one distinguish between Hispanic
- 12 and non-Hispanic whites?
- 13 A No.
- 14 Q All right. The next one is Defendant's Exhibit 2.66.
- 15 A Yes. So, once again, essentially the same report but for
- 16 the SCSJ Congressional Plan.
- 17 Q All right. And then the next one is Defendant's
- 18 Exhibit 2.67, and is that essentially the same kind of report
- 19 but for the Congressional Fair and Legal --
- 20 A Yes.
- 21 | Q -- Proposed Plan, all right. The next one is Defendant's
- 22 Exhibit 2.31. Can you identify what that is.
- 23 A Okay. This is a chart that shows -- like these numbers
- 24 are all based on the 2010 Census, and so this looks at the 2001
- 25 District 1 versus the 2011 District 1. It looks at how much of

1 the population was common between the two districts, and then

- 2 it does the same thing again for District 12, and you can see
- 3 that the population shared with the new district on each side
- 4 is identical, but since the total populations are different,
- 5 then the percentages are different.
- 6 Q All right. And did you prepare that chart?
- 7 A Yes.
- 8 Q All right. If you'll look at the next chart, the sticker
- 9 on it is not blue, but it says Plaintiff's Exhibit 80.
- 10 A Yes.
- 11 Q Do you know what this chart shows?
- 12 A Yes, this is a comparison of the 2001 Congressional Plan
- 13 against the newly enacted Congressional Plan, and this was part
- 14 of our preclearance submission, I believe.
- 15 Q And did you prepare this chart?
- 16 A No, I think this one was prepared by a Research Division.
- 17 Q And can you explain what the Research Division is?
- 18 A It's a -- well, it's a division within the General
- 19 Assembly. I work for the IT Division. They -- the Research
- 20 Division is primarily attorneys that work with legislators to
- 21 draft legislation and, you know, look into the issues for them.
- 22 Q All right. Do you know, looking at the categories on this
- 23 one, does it distinguish between single race and total --
- 24 single race black and total black?
- 25 A Yes, it does. For both of them there's single race black

and then there is a total black, which would be the same as any part black. 2 All right. 3 And this is -- I checked the numbers on this, and so this is -- the portion on the left, the population is from the 2000 Census, and on the right it's 2010 Census. 6 The next document is one that's stapled together, and it's 7 marked Defendant's Exhibit 23, and let me ask you to turn four pages in, and do you see -- if you go four pages in, do you see three pages of charts? 10 Yes. 11 12 MR. SPEAS: Your Honor, I object to this document. It was not -- it was a letter written to the Court in the 13 Dickson matter. It's not a part of the evidence in the Dickson 14 matter. I don't see how it can have any relevance in this 15 16 case. 17 MR. FARR: May I respond, Your Honor? 18 THE COURT: You may. It actually is a part of the Dickson 19 It was submitted to the Supreme Court. It was listed 20 as an exhibit and there was no objection registered to it. 21 letter itself is not really what we're seeking to admit. 22 the charts that are attached to the letter. 23 Then I'd ask the record -- the letter be 24 MR. SPEAS:

taken away and removed from the exhibit.

MR. FARR: Well, then I'm -- this is no different than the argument that was made about our attorney-client privileged letter because this letter was part of the *Dickson* record and there was no -- and we objected to the attorney-client privileged document. There was no objection made to this exhibit in this case.

THE COURT: All right. I scanned the letter. I'll talk to the other judges in just a second, but it seems to me to the extent the letter itself talks about, for example, serious matter and assertion is potentially misleading as it fails to distinguish, et cetera, we feel obliged to correct this potential misperception.

I don't see that -- how these statistics may have arisen or that there was a problem with the record is really relevant to this proceeding and, quite frankly, not enough information here for me to decide whether it's misleading or not, but to the extent the letter is -- at least in part explains how the attached statistics came up, it would seem to me that it's relevant, so I'd say just to keep it shorthand to the extent the letter addresses any complaints about the proceedings that occurred -- procedurally the proceedings that occurred in the state Rucho trial, that's not relevant, but to the extent there's information that explains where the charts came from, it probably is.

MR. FARR: Your Honor, honestly, I -- we were having

```
a lawyer's debate here on a technical point about whether
 1
 2
  objections have been raised. Honestly the letter's not
   important because Mr. Frey is going to explain what the charts
 3
   mean, and that's really all we're concerned about.
 4
 5
             THE COURT: All right. I'll leave it then that
  we'll -- since Mr. Frey is here and testifying, he can explain
 6
 7
   the charts.
                To the extent there's information in the letter
  which might simply show that charts have been disclosed to the
 9
   other side, then I'll let it in for that; but, otherwise, we
   won't pay much attention to any disputes about what happened in
10
   the state court proceeding.
11
12
             MR. FARR:
                        That's fine, Your Honor. I think that's
13
   appropriate.
             THE COURT: All right. You may -- who was doing it?
14
  You may continue.
15
16
             MR. PETERS:
                          I was, Your Honor.
17
             THE COURT:
                         Sorry about that.
18
             MR. PETERS: Thank you, Your Honor.
  BY MR. PETERS:
19
        Let me just ask you to look at the last page, Mr. Frey.
20
21
  IA
        Okay.
22
        Since this is the page related to the Congressional Plans,
   can you identify what that chart is?
23
24
               So this relates to the 2001 Congressional Plan.
        Okay.
   It's based on 2000 Census data. It looks at Districts 1 and
25
```

1 12. So this specifically lays out the percentages of

2 non-Hispanic white population for those districts for both all

- 3 ages and in voting-age population.
- 4 Q All right. And did you prepare that chart?
- 5 A Yes.
- 6 Q In looking up at the top, was this based on the 2000
- 7 Census?
- 8 A Yes.
- 9 Q And then there's a stack of documents that I'm afraid are
- 10 not stapled together, but they go together, and the first page
- 11 is marked down at the bottom. There's a sticker that says
- 12 Exhibit 81 for a deposition of E. Churchill, and then below
- 13 that it says Plaintiff's Exhibit 69. Do you know who E.
- 14 Churchill is?
- 15 A Yes. She's an -- Erika Churchill. She's an attorney in
- 16 our Research Division.
- 17 Q All right. Do you know what -- the charts behind this
- 18 page that says Congressional Races 1992 to 2010, do you know
- 19 what those charts purport to show?
- 20 A Yes, this is one of the documents that's posted on our
- 21 website, and so it shows basically election -- you know, that
- 22 top part having to do with candidates in the different years
- 23 and their races --
- 24 Q All right.
- 25 A -- and their party affiliations, and then down below

there's a section with census race breakdowns. 1 2 All right. Do you know if Ms. Churchill prepared these charts? 3 I believe so. Have you gone back and looked at the data in these charts 5 and compared them with data in your system? 6 7 I've looked at specifically the bottom portion having to do with census data, as the top information is not in 9 our system per se. And based on your review of the data in your system in 10 comparing it with what's in these charts, have you been able to 11 12 determine whether the columns here that show white population 13 do or do not include Hispanic and non-Hispanic whites? They -- it's like -- the total white is simply total white 14 without regard to ethnicity, so it includes Hispanics. It does include Hispanic whites? 16 17 Yes, yes. 18 MR. PETERS: I don't have any further questions. Thank you, Your Honor. 19 THE COURT: Cross-examination. 20 Briefly, Your Honor. 21 MR. SPEAS: CROSS-EXAMINATION 22 BY MR. SPEAS: 23 Mr. Frey, you have in front of you, I think, a document 24 marked plaintiff's -- excuse me, Defendant's Exhibit 126, which 25

1 is a collection of historical maps, is that correct?

- 2 A Oh, okay. Yes.
- 3 Q Do you have that in front of you?
- 4 A Yes, I do.
- 5 Q And you prepared that?
- 6 A Yes, we've -- yes, we've at least prepared all the
- 7 contents.
- 8 Q Okay. At the request of counsel for the defendants?
- 9 A Yes, that's my recollection.
- 10 Q Now, you have -- Tabs 1, 2, 3, and 4, at least as I
- 11 understood your testimony, relate to redistricting plans
- 12 enacted during the 1990s, is that correct?
- 13 A That's right.
- 14 O And the information in -- for each of those tabs is the
- 15 information that the General Assembly had available to it in
- 16 the 1990s when it was enacting these plans?
- 17 A That's correct.
- 18 | Q And this is the information that the General Assembly used
- 19 in seeking preclearance from the USA Department of Justice for
- 20 each of these plans?
- 21 A The underlying information, yes.
- 22 Q Okay. Now, you have in Exhibit 26 I think also
- 23 information for the plan enacted in 2001, is that correct?
- 24 A I'm sorry, say that one more time.
- 25 Q You have in Exhibit 26 put together information for the

```
Congressional Plan enacted by the General Assembly in 2001?
 1
 2
   Α
        Yeah.
 3
             THE COURT: Hold on just a second. I think --
 4
             THE WITNESS: Right, okay. In this exhibit, Exhibit
   126 --
 5
 6
  BY MR. SPEAS:
 7
        I'm still on 126.
             THE COURT: 126.
 8
 9
  BY MR. SPEAS:
        You have Exhibit 126 in front of you.
10
11
        Yeah.
12
        Exhibit 126 has in it, at one of the tabs, I'm not sure
13
  which, or several of the tabs information about the plan
  enacted in 2001, correct?
14
15
        That's correct, yes.
        Okay. And the information that is there is information
16
   available to the General Assembly in 2001 when it enacted the
18
  plan, with the exception of the information based on the 2010
  Census, is that correct?
19
20
        Correct.
                  There are two separate tabs with Congress zero
21
  deviation; one is using the 2000 Census data which is what they
  would have had available to them at the time. It's not
22
  necessarily that the information here is all of the
23
  information. You know, these are sort of standard top level
24
25
  reports.
```

```
I understand. My question is, was the 2010 data available
 1
  to the General Assembly when it enacted the plan in 19 --
 2
        No, certainly not, certainly not.
 3
        I thought that seemed logical. So when the General
 4
  Assembly was seeking preclearance for the 2001 plan, it only
 5
  had the 2000 Census data?
 6
 7
        That's right.
        Okay. Now, look with me, Mr. Frey, at the second package
 8
   of materials that Mr. Peters gave you, and I want to ask you
   some questions about those documents, and the first question I
  want to ask you is this: Except for the exhibit marked 69,
12
   which comes at the end of the package of materials, and which
   is congressional race results from 1992 to 2010 --
13
                         I don't mean to -- let me clarify.
14
             THE COURT:
  P69 is a part of -- as I read this stack, the P69 is a part of
15
16
  that defendant's D23.
                          Is that the way it's numbered or is that
   a standalone exhibit.
17
18
             MR. PETERS: No, Your Honor. It's a standalone
   exhibit. It's a Plaintiff's Exhibit 69.
19
20
             THE COURT: Okay. So the -- it doesn't have a
  sticker, it just has that P69?
21
22
             MR. PETERS: Right. I think it got marked early on
   in the process before the stickers --
23
24
             THE COURT: Yeah, got it. So P69 in addition to --
25
   all right. You may continue, Mr. Speas.
```

MR. SPEAS: Okay. Thank you, Your Honor. 1 2 BY MR. SPEAS: 3 Let's address P69 first. P69 is the results of congressional races from 1992 to 2010? 5 Yep, okay. 6 And this information was available to the General Assembly 7 ||in 2011 when it enacted the plan that's being challenged here? 8 Α Yes. 9 And this document sets out the results of every congressional election and Congressional Districts 1 and 12 from 1992 until 2010? 11 Yes, that sounds right. 12 13 And the General Assembly had this information? Yes, I'm trying to remember at what date this was compiled 14 based on our -- I don't see a date. I'd have to look at the website to see. I think this was posted early on. It's possible this was actually after enactment, but I think it was 18 before. To the best of your memory sitting here today, this 19 information was available to the General Assembly when it enacted the plan we're challenging? 21 I believe it was before the date of enactment. 22 And you recall this information was requested by Senator 23 24 Rucho? Like I say, I didn't compile it. I -- it -- yeah, I think 25

1 it may have been.

- 2 Q Now, with the exception of Plaintiff's Exhibit 69, with 3 regard to the other documents that you were handed by
- 4 Mr. Peters, Defendant's Exhibits D2.60, D2.61, D2.62, D2.63,
- 5 D2.64, D2.65, D2.66, D2.67, and D2.31, none of that information
- 6 was available to the General Assembly at the time it enacted
- 7 these plans in this form?
- 8 A Well, these -- yeah, these reports were created 9 afterwards. That's not me -- using the information in the
- 10 database that we're using.
- 11 Q These reports did not exist at the time the General 12 Assembly enacted these plans?
- 13 A Yeah, I believe that's true.
- 14 Q Okay. Now, was one of your tasks in your role with the
- 15 General Assembly to put together the database for the plan
- 16 that's being challenged here?
- 17 A Yes.
- 18 Q Did Tom Hofeller help you put together that database?
- 19 A Tom Hofeller was around as a consultant sort of, so he
- 20 had -- part of meetings and --
- 21 Q And he was around as early as January and February of
- 22 2011, correct?
- 23 A Yes, I believe so.
- 24 Q And these plans weren't enacted until July of 2011, were
- 25 they?

1 A That's right.

- 2 Q And when -- do you recall when Senator Rucho first made
- 3 public a proposed Congressional Plan? Was it July 1, 2011?
 - A I don't recall the date.
- 5 Q The record would reflect the date on which the first
- 6 Congressional Plan was made public, will it not?
- 7 A Yes, certainly, on our -- even on our website there are
- 8 dates with plans.
- 9 Q Okay. Now, as a part of the gathering of data, did you
- 10 gather election results to provide to put in the legislative
- 11 database?
- 12 A Yes.
- 13 Q And who made the decision as to which election results
- 14 would be put in the database?
- 15 A That decision was -- basically went out. I made a list of
- 16 available elections and sent it out to the redistricting chairs
- 17 \parallel for them to mark what they would like to have included.
- 18 | Q And those chairs were Senator Rucho and Representative
- 19 Lewis?
- 20 A Yes.
- 21 | Q And they made the decision as to which elections to put
- 22 into the database?
- 23 A Yes, ultimately.
- 24 Q And Mr. Hofeller helped you put that database together?
- 25 A Well, I mean, primarily I put it together myself, but

he -- you know, he if -- he was helpful if you had a question 2 about what would make sense. 3 He advised you in putting that together? Yes, provided some advice. And there are, in fact, many election results in the 5 6 legislature's database, correct? 7 There are quite a few. I'd have to look the data -- you know, at the layout to count them. 9 For example, are there 11 election results from the 2008 elections in the legislative's database? Possibly. It sounds a little high, but possibly. 11 12 on our, you know, once again, our website, that's -- the full 13 layout document is posted. But a person could go to the legislature's website and 14 actually count the number of election results set forth in the 16 database that the General Assembly compiled to create this challenged plan, correct? 17 18 Α Yes. And there's several elections? 19 20 Right. I don't -- yeah, there's not just one. Α 21 It's not just the 2008 Obama election, is it? 22 No. Α MR. SPEAS: Thank you. 23 THE COURT: Redirect? 24

MR. PETERS: No redirect, Your Honor.

```
THE COURT: All right. You may step down.
 1
 2
              (At 3:58 p.m., witness excused.)
 3
             THE COURT: Next witness.
             MR. FARR: Call Dr. Tom Hofeller.
 4
              (Witness sworn by the clerk.)
 5
 6
             MR. FARR: Your Honor, could we put our maps back up?
 7
             THE COURT: You may.
                       THOMAS BROOKS HOFELLER,
 8
 9
               DEFENDANT'S WITNESS, SWORN AT 3:59 p.m.
10
                         DIRECT EXAMINATION
  BY MR. FARR:
11
12
        Would you please state your name.
        My name is Thomas Brooks Hofeller.
13
        And could you tell us where you reside currently,
14
15
  Mr. Hofeller?
        I reside at 6701 Pointe Vista Circle, Raleigh, North
16
  Carolina 92615.
17
18
        And could you tell the Court a little bit about your
  educational background starting with college.
20
        I received a BA in political science from what is now
  Claremont McKenna College in California. It was actually
  Claremont Men's College when I graduated from it. It's since
22
  gone coed. I received a master's from Claremont University
23
  Center which was then Claremont Graduate School, and I received
   a Ph.D from Claremont University Center.
25
```

- 1 Q And what was your Ph.D in?
- 2 A Government.
- 3 Q And I've handed you Exhibit 129. Could you identify that
- $4 \parallel$ for the Court.
- 5 A That's my current resume.
- 6 Q And Dr. Hofeller, do you know what redistricting is?
- 7 A Yes.
- 8 Q Have you ever been involved in redistricting?
- 9 A About 50 years worth.
- 10 Q Can you tell the Court about your experiences in
- 11 redistricting?
- 12 A Well, I've actually started out redistricting in
- 13 California in 1965 and in the late '70s and then on I was in
- 14 redistricting cases and operations across the country. I moved
- 15 to Washington DC in the summer of 1981 and have been involved
- 16 on the national redistricting scene ever since that move.
- 17 Q How much of your professional time has been spent involved
- 18 with redistricting?
- 19 A It's really kind of hard for me to estimate exactly how
- 20 much time because, particularly in former decades,
- 21 redistricting is kind of seasonal, and so between redistricting
- 22 years, I've had various other jobs that I've been involved in.
- 23 So I can't say that it's been many years worth of redistricting
- 24 experience over the previous five decades.
- 25 Q Have you drawn redistricting plans for state legislatures?

- 1 A Yes.
- 2 Q And have you drawn state-wide plans for state
- 3 | legislatures?
 - A Yes.
- 5 Q Have you drawn state-wide plans for political parties or
- 6 private persons?
- 7 A Yes.
- 8 Q How many types of state -- how many state-wide plans do
- 9 you think you've drawn during the course of your career?
- 10 A Well, if you count plans that I've drawn to analyze the
- 11 political and demographic data that comes out from the census
- 12 for multiple states to see what the possibilities are for
- 13 redistricting, I would say those plans are probably in the
- 14 hundreds.
- 15 Q And what types of information do you rely upon to draw
- 16 redistricting plans?
- 17 | A There are two different -- well, there are actually three
- 18 \parallel different data sets that one uses to draft redistricting plans.
- 19 One is the census data, which very fortunately is compiled by
- 20 the US Census Bureau and is released to the general public
- 21 | about -- a little bit before a year after census day each
- 22 decade.
- There's a program that the Census Bureau has under
- 24 public law 94-171 in which the states are allowed to indicate
- 25 what units of geography they want data to be tabulated for for

redistricting purposes, which are called voting districts.

Many people call them vote tabulation districts, but the

official census name is voting districts. So that's the

demographic data which consists of racial and ethnic data.

Sometimes if redistricting goes on beyond a couple of years after the original data release, other information has become available from the Bureau, at least -- except for the last census which is from the census long form, which contains some citizenship data which is usually of interest.

The Census Bureau does not provide any election or registration data to the states for redistricting purposes.

That has to be done at the state level by state employees or by other organizations, and that data has to be matched to the voting districts so that one gets a unified database for the vote districts if the state has them. A number of states don't participate in that program. That causes further problems.

One of the things that is typically gathered for redistricting are residences of incumbents. Everybody's interested in where the incumbents live, particularly the incumbents actually. So that's a separate very small database that has to be added in.

- Q Okay. In drawing redistricting plans, do you -- what do you look at in drawing the districts?
- A Well, number one is population figures, and the population figures are -- come in many different hierarchal levels from

the Census Bureau other than just vote tabulation districts.

So generally the data is down on census data to the block level, a census block, which is sort of analogous to a city block, but it can be a different type of area.

So sometimes the blocks are divided by railroads or some natural stream or something like that, and sometimes the census block, particularly in rural areas, will constitute several natural blocks with what we would consider blocks. And it builds back up hierarchically up through different geographic hierarchies up to -- up through the county level and the state level.

- Q Could you -- there's been some testimony on this, but could you tell the Court what a vote tabulation district is.
- A Every decade since Public Law 94-171 was passed by Congress, the Census Bureau reaches out to the individual states and, to put it simply, says give us the lines by which you would like your data tabulated, specially for redistricting purposes, so those are usually vote tabulation districts.

They're usually the same as precincts but not always because the census has some rules on what kind of a line you can give them, so they'll say this has to be some identifiable on-the-ground feature, or it has to be a city limit line, some jurisdictional boundary.

Q And do you use vote tabulation districts in drawing redistricting plans?

- A Where the states actually have them, they're used. Some states, such as my home state of California, they've kind of done a miserable job of -- they're kind of in-house state VTD so California is so big that they actually redistrict on census tracks which are much larger.
- O Do you ever look at political data when you're drawing redistricting plans?
- 8 A Absolutely.
- 9 Q Could you explain why you do that and what type of political data you review.
- Well, redistricting experts operate under the assumption 11 12 that the best predictor of future voting behavior is past voting behavior. So you can look at a number of electoral 13 races to try and build districts that you think are favorable 14 15 to the policies of the people who are implementing the map, or if you're not working for somebody who actually is drawing the 16 map, just what you think is there. But many times I've used in 17 18 redistricting a single race which I've found to be highly correlative to other races because it's simpler for most people 19 to understand where you're going with it. 20
- Q All right. And when you're looking at the voting results for a particular election, what unit of census geography are you looking at?
- 24 A Well, the --
- 25 | Q What roles -- what role does V -- do VTDs have in this?

Hofeller - Direct

- Well, again VTDs are analogous, for the most part, to 1 2 precincts, and there's no division of election data down below 3 the precinct level except for purpose of actually loading the data into a system like Maptitude where you have to disaggregate it into blocks so that the system has some political data all the way from the top to the bottom. That's 6 7 a requirement to make the system run properly. But if you split a precinct, the data for that precinct will be 8 homogeneous proportioned according to the number of usually adults that are on either side of that line.
- 11 Q Now, Dr. Hofeller have you ever written any peer-reviewed 12 scholarly articles? Have you written --
- 13 A Yes.
- 14 Q Could you tell the Court about that.
- A Well, I wrote an argument on compactness with Bernie Grofman, et al. which is a very early and kind of seminal argument on compactness.
- Q Okay. And do you have any experience in redirecting in North Carolina?
- 20 A lot.
- 21 Q Could you tell the Court about that.
- A I was a consultant to the legislature in 1980 and testified in the *Gingles* case. I also was involved in the '90s and 2000 and involved this time, so I have a lot of experience.
- 25 I testified in *Shaw* and helped with other cases throughout the

- decades. North Carolina actually makes more redistricting law
 that most any state is entitled to make, and there are a lot of
 cases. I'm pretty familiar with Carolina, although sometimes
 individual names of cities and such are not available to me at
- 6 Q And you mentioned you testified in the *Gingles* case. Did
 7 you testify as an expert witness in that case?
- 8 A I did.

my age.

- 9 Q And did you testify as an expert witness in the Shaw case?
- 10 A I did.
- 11 Q Have you testified as expert -- as an expert witness in
- 12 other cases?
- 13 A In North Carolina?
- 14 Q North Carolina or anywhere else.
- A Well, about 19 cases, I think. I counted them up this morning before I came to court. I looked over my resume and
- 17 said where did I actually give court testimony.
- 18 Q So are those --
- 19 A Not all of them, incidentally, have been congressional or
- 20 legislative; some of them have county level, city level, other
- 21 types of districts. It varies.
- 22 Q And have you ever been disqualified as an expert in any
- 23 case that you've testified in?
- 24 A No.
- 25 Q And has a Court ever found that you have given false

```
testimony in a case you've ever testified in?
 1
 2
        No.
 3
             MR. FARR: Your Honor, I'd like to tender
   Dr. Hofeller as an expert in redistricting, voting behavior and
 4
   demography.
 5
 6
             THE COURT: Redistricting, voting behavior, and what
 7
   was the last one?
             MR. FARR: Map drawing.
 8
 9
             THE COURT: Say it one more time.
10
             MR. FARR:
                       Map drawing. I said demography, but I --
  he's drawn a lot of maps.
11
12
             THE COURT: All right. There was a -- I think there
  was a motion in limine filed as to Dr. Hofeller, but I'm not
13
  sure it was anything --
14
15
             MR. HAMILTON:
                            We have no objection to Dr. Hofeller
  testifying as an expert in this case on the proffered points.
16
   The motion in limine solely related to his expert report and
17
   the legal conclusions contained within it, and that's not
  before the Court at the moment. So I have no objection to the
19
  proffer.
20
21
             THE COURT: All right. Then we will permit
  Dr. Hofeller to testify as an expert in redistricting,
22
   cartography and what was the third area?
23
             MR. FARR: Voting behavior.
24
25
             THE COURT: Voting behavior. All right.
```

```
BY MR. FARR:
 1
 2
   Q
        Okay. Now, Dr. --
 3
             THE COURT: Hold on just one second.
              (Short pause.)
 4
             THE COURT: All right. You can continue.
 5
   BY MR. FARR:
 6
 7
        Dr. Hofeller, you've been -- the Court's allowed you to
   give testimony as an expert, but you also participated in
 9
   redistricting in North Carolina in 2011, did you not?
        I did.
10
        Could you tell the Court how you came to be involved in
11
12
   redistricting in North Carolina in 2011.
13
        Part of it was because people knew me from my past
   experience in the state. I was working in 2010 at the
15
  Republican National Committee as their consultant, and as part
  of that job we held a conference on redistricting in Washington
16
   DC, I believe in April of 2010, as part of our program to try
17
   to get the stakeholders ready for the redistricting process.
19
             There are a lot of different facets of the process,
   and sometimes it's a struggle to get the politicians to get off
20
21
  the current problem of the day and start preparing for this
  process, particularly in terms of building databases and
22
   getting software and getting people trained up. I met
23
  legislators from South Carolina, then I was also in touch with
25
   your law firm and with you, and so I became involved with
```

1

2

3

6

7

8

9

10

12

redistricting in the state.

As was mentioned previously by Dan Frey when he testified, one of the problems that North Carolina had in preparing for the redistricting is that the Democratic majority in the legislature had not really brought the database up-to-date with some of the latest elections. So I came down for several meetings at the General Assembly and discussed with them how to get these databases up-to-date.

One of the problems is is the precinct lines change over time. You have to adjust the data. They actually did the work, and they got the concepts down pretty quickly, but we lended some advice on how to put it together.

- Q And then were you actually engaged to be involved in drawing redistricting maps in North Carolina?
- 15 A Yes.
- 16 Q And who were you engaged by?
- 17 A I was engaged by you.
- 18 Q And who gave you your instructions on how to draw the maps in North Carolina?
- 20 A The instructions, as they should always do in the
- 21 legislative session, came from the legislative leadership. In
- 22 this case it was the two chairman of the redistricting
- 23 committees in the two houses, Senator Rucho and Representative
- 24 Lewis.
- 25 Q And what political party were the cochairs from?

1 A The Republican Party.

- 2 Q And had the Republican Party controlled the redistricting
- 3 process in North Carolina prior to 2011?
 - A No.
- $5 \parallel Q$ Dr. Hofeller, can you see you've got the 2001 and 2011
- 6 congressional maps up there with you?
- 7 A I do, although I can't actually see both of them.
- 8 Q You can't see them at all?
- 9 A I can see they're there, but I can't see the whole map.
- 10 Q Okay. Well, if at any point you need to walk down and
- 11 look at them to give your testimony, I think you've got a
- 12 pointer with you, and you don't need to do it now, only if you
- 13 think it would be helpful, but did you have an opinion on
- 14 whether the policy goals of the 2011 legislature for
- 15 congressional redistricting were different than the policy
- 16 goals of prior General Assemblies?
- 17 A Absolutely.
- 18 Q Well, could you explain that to the Court.
- 19 A Well, for the first time I think probably in my lifetime,
- 20 the Republicans had taken over both houses of the legislature,
- 21 | and since the governor in North Carolina does not have veto
- 22 authority over redistricting plans, the Republicans were for
- 23 the first time actually drawing the maps.
- 24 Obviously, as is the case in almost all
- 25 redistrictings, the majority party draws the maps according to

- their policy goals which are usually quite different from the opposition party's policy goals.
 - Q Okay. So can you tell the Court what criteria you received from the cochairs to draw the congressional plans?
- 5 A The congressional plans specifically?
- 6 Q Specifically and then we can go into the 1st and the 12th 7 districts?
- A All right. Well, obviously the first criteria is one person, one vote, but that kind of goes without saying because in Congressional redistricting now, the standard is as equal as practicable and has developed to the point where districts have to be within one person or zero persons of the ideal district population which is compiled by dividing the state's population in the census by the number of districts. That was the first one.
- 16 Q Is there any other general criteria or policy decision by the cochairs?
- A Well, the second policy decision was to draw maps that
 were more favorable to Republican candidates in the
 congressional map. The third was to avoid causing problems
 vis-a-vis the Voting Rights Act. The fourth was to draw the
 districts in such a way that we might go some way towards
 avoiding the large variances of the populations of the district
 as we come up to 2020 and the new census.
- 25 Q All right. So the two districts being challenged in this

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case were Congressional District 1 and Congressional District 1 Could you tell the Court what criteria you were given by 2 12. the cochairs for Congressional District 1? 3 Congressional District 1 was considered by the chairs to be a voting rights district. In my experience, it's always 5 been considered a voting rights district, so it had to be drawn 6 in accordance with the fact that it needed to be passed through 7 on Section 2 and also Section 5 which was in effect at the time the maps were enacted and submitted to the Justice Department. All the other criteria were pretty much the same for the 1st District as the general criteria I mentioned. 11

The 12th District, if you excuse me, as a result of the two Cromartie cases had been treated by the Democrats in its former iterations as a political district after the original couple of tries that they had in the '90s. They came back with a map, and in '97 it was justified as a political map rather than a voting rights or -- map, and there was no reason to treat it otherwise. In fact, there was every reason not to treat it otherwise -- or to treat it the same way in this redistricting. So my instructions from the two chairmen were to treat the 12th District exactly as it has been treated by the Democrats in 1997 and 2001 as a political draw.

Q Okay. Now, did the 2001 map and the location of the districts play any role in the 2011 plan? Was there any similarity between the 2001 districts and the 2011 districts?

Well, they're actually very similar. They were drawn in 1 2 the same six counties and they ran in the same general direction from Mecklenburg County up to Guilford County with 3 the districts splitting off into Winston-Salem County.

- Now, you're referring to the 12th District?
- 6 I'm sorry, the 12th District.

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- My question is what about the entire Congressional 7 Plan? Did the old districts provide a frame of reference for the new districts? 9
 - Well, they provide a limited frame of reference, but the problem is is that there were some population pressures because of lower population growth in some areas of the state, and greater population growth in other parts of the state, and so the districts would, right off the bat, have to be adjusted for those population differences in order to comply with one person, one vote.

Obviously there were also some other issues which involved the political policies of the General Assembly which, of course, were diametrically opposed in many ways to the political policies of the former General Assembly in 2001.

- Now, did you receive any instructions regarding the amount 21 of black voting-age population to include in the First 22 Congressional District?
- My understanding was I was to draw that 1st District with 24 25 a black voting-age population in excess of 50 percent because

1 of the *Strickland* case.

- Q And could you give the Court your understanding of what the Strickland case meant.
- A Well, I don't want to be playing attorney here.

MR. HAMILTON: I'm going to object, Your Honor, at this point. He's not been proffered as an expert in the law, and I don't think it's appropriate for him to testify. He can testify, of course, what his instructions were from the legislators, but having him construe *Strickland*, I think invades the province of the Court.

THE COURT: I think if you rephrase it just to couch it in terms of him explaining -- in light of his response, couch it in terms of his explaining what he understood his instructions were.

MR. FARR: Your Honor, if he was familiar with the Strickland case, that would have some bearing on his understanding of why he was doing what he was doing. We're not offering him as an expert on legal issues.

JUDGE COGBURN: Is he going to testify that he took Strickland and read it as a legal case and then followed the legal reasoning of it, or is he going to say that based on that he followed the instructions of the legislature and what's his answer going to be?

If he said -- he said he followed the *Strickland* case. Is he -- did he follow it as its legal ruling, or did he

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get specific instructions of how to follow the Strickland case,
  and he can answer that. If he followed the Strickland case,
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   then I think he would have to say what he thought it said,
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   whether it's legally right or legally wrong.
             MR. FARR: Yes, sir. That's what -- I think the
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  answer is both, so if -- we're not offering him as -- we're not
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  saying he's right about what the Strickland case means.
  for the Court to decide.
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             THE COURT: Let's clarify what he's doing and then
  you can go from there. While we're doing that, before we start
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  back, give me just a minute.
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             (Short pause.)
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             THE COURT: All right. Let's see where we are.
  Mr. Farr, you may continue.
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             MR. FARR:
                        Okay.
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  BY MR. FARR:
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        So I'm not asking you for a legal conclusion or a legal
   explanation, Dr. Hofeller, but I do want to know, have you ever
  read the Strickland case?
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        Yes.
        And what was your understanding of what it said?
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             JUDGE GREGORY:
                             Isn't that the objection?
   going to tell us what he understood the legal case said?
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   That's --
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             THE COURT: Go ahead.
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             JUDGE GREGORY: It seems to me that's a legal
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   opinion. That's what lawyers do, interpret legal opinions.
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             MR. FARR: Well, I'm sorry, Your Honor. We're not
   offering him as an expert on the law, but he read the
   Strickland case and part of -- and that informed him about
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   what --
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             JUDGE GREGORY: Well, he answered your question.
  asked for the directions. He said he was to draw it so it was
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   50 percent plus. He already answered that question.
             MR. FARR: All right, Your Honor, I'll move on, and I
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  apologize. Thank you.
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  BY MR. FARR:
        Now, did you receive any instructions about the racial
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  percentage to include in the 12th District?
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        I did not.
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        What was your answer?
        I did not. Am I speaking too fast, Your Honors?
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             THE COURT: No.
             THE WITNESS: Okay.
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  BY MR. FARR:
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        Now, let's look at some of the criteria that you have
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  discussed that you were told to follow and, Your Honor, I'm
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   going to hand up his expert reports right now, if that's okay.
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             THE COURT:
                         Okay.
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  BY MR. FARR:
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- 1 Q So Dr. Hofeller, I've handed you Defendant's Exhibit D.
- $2 \parallel 25.8$. Could you tell the Court what that is.
- 3 A That is a copy of my first expert report which was signed 4 on February 17, 2014.
- 5 Q And I've also given you a copy of an exhibit that is
- 6 marked D, Defendant's 26.1. Could you tell the Court what that
- 7 lis.
- 8 A That is a copy of my second expert report in this case, 9 Which is dated June 4, 2015.
- 10 Q Okay. So could you tell the Court what your understanding
- 11 was of the criteria you had been given regarding equal
- 12 population of the districts?
- 13 A Again, not to repeat myself here; but, again, the standard
- 14 for quality of population is the minimum deviation that you can
- 15 possibly do, because the state's population doesn't divide
- 16 evenly into -- can't be divided into equally by the number of
- 17 districts. Sometimes some of the districts have to be negative
- 18 | in a state and zero. Sometimes they have to be positive in a
- 19 state and zero, but we -- plus or minus one depending on the
- 20 state.
- 21 Q Okay. Now, could you turn to Exhibit D-26.1 and Map No.
- 22 1, please.
- MR. HAMILTON: Your Honor, these documents are being
- 24 offered into evidence so that we can examine the contents of
- 25 | them. Perhaps now, I don't want to prematurely raise an

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objection, but if we're going to examine the substance, I think they ought to be offered into evidence first, and at that point 2 we would have an objection to certain portions of this. 3 So, having said that, I would -- our motion in limine 4 was to strike certain legal passages from here. I don't object 5 to the admission of the report overall, only would ask that the 6 Court strike and disregard those portions of the report that --7 in which Dr. Hofeller offers his legal opinion as a nonlawyer 8 9 about the meaning of certain cases. THE COURT: All right. Let me get squared away, 10 because I got lost in the -- you had just asked him to pull out 11 12 26.1 or 126? MR. FARR: Defendant's 26.1, Map No. 1. 13 THE COURT: Okay. And your objection is to portions 14 of Dr. Hofeller's report that involved a legal conclusion? 15 MR. HAMILTON: Correct, Your Honor, in both -- both 16 of the exhibits that is on hand right now which is 17 Exhibit D26.1 and the other exhibit that was just handed up, which is Exhibit D25.8. Those are the two expert reports as to 19 which our motion in limine was addressed because they're kind 20 of scattered throughout, and I'm not trying to be difficult 21 here. That's why I asked in our motion in limine. 22 23 THE COURT: Let me say this: At this point in time, I think the comments from the bench make clear that

Dr. Hofeller has been qualified as an expert in certain areas,

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not as a legal expert, and there may be matters contained in
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   the reports that address legal issues such as case
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   interpretation.
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             At this point in time, let's hear the testimony.
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                                                                We
   can sort through, I think, whether now or later, what's proper.
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   There's a -- as I see it, there's a little tricky issue as to
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   what constituted an instruction, such as comply with Strickland
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  to make a black voting-age population greater than 50 percent
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   in CD1, which doesn't involve reading the case. It's just an
   instruction, and those which may be I read the Strickland case,
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   and I conclude X. And until we've heard the testimony, it's
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   kind of hard to sort through --
             MR. HAMILTON: Understood, Your Honor, and I think
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   that makes -- that makes sense, and there's statements in
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   the -- in a report that go far beyond the instruction.
  be clear, we have no objection to Dr. Hofeller talking about
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   the instructions he received from the legislators, whether that
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   was couched in terms of legal advice or not, that's fine.
             THE COURT: Let's go ahead and hear it, and we'll
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   sort through it.
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                            Thank you, Your Honor.
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             MR. HAMILTON:
             THE COURT: All right.
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   BY MR. FARR:
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        So Dr. Hofeller, we're on Exhibit D26.1, and there's a
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   color map that's labeled Map No. 1. Do you see that?
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1 A I do.

Q Could you tell the Court what this map is. Did you make this?

- A I did.
- Q Could you tell the Court what the map is.

A This is a map showing the districts which were enacted in 2001. I believe that was the zero deviation plan. The colors of the districts mean nothing special except that no adjoining district should have the same color as the one adjoining. No district should have the colors -- same color if they are adjoining.

This is part of a preliminary analysis that any redistricting expert or any map drawer would make of a state, be it at the Congressional level or the legislative level or any other level, which is to see what the one person, one vote issues will be in the state, not only by individual districts, but by areas of the state, and where -- to try and be thinking about how those different population deviations will be corrected in the new plan.

So the importance of this map was to note that, for instance, the three most western districts in the state, 5 and 10, and 11, were all significant negative deviations. Also, of course, District 1 in the north, northeast was a very high deviation. District 6 had a low deviation, and I guess most notably District 4, which is in the Raleigh-Durham/Chapel Hill

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area had a very high positive deviation as did the 9th District
in Mecklenburg County, which had a positive deviation of
118,000.
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The rest of the district deviations were relatively minor, but the problem you have when you're drawing districts is although one district might be right on, it might be pushed by the deviations in the other districts. One of the problems I often encounter in redistricting is every member thinks the district should start at their district, and all the pieces don't fit together with all their wishes, so this is just a standard deviation map.

- Q Okay. So just to make sure this is clear, which district, under the 2001 plan, was the most underpopulated?
- 14 A District No. 1, 97,563 persons.
- 15 Q And what was the most overpopulated district?
- 16 A Was District 9 in the positive, 118,878 persons.
- 17 Q And what was the second most overpopulated district?
- 18 A The 4th District, which was 93,379 over the ideal district 19 size.
- Q And can you, looking at this map, or if you need to look at one of the maps we have on the easels, can you recall the counties that were in the 2001 4th District?
- A I believe it was Chatham, part of -- part of Chatham, part of Wake County, Durham County, and I believe Orange County.
- 25 Q All right. Now, did you have any discussions with the

1 cochairs about how to address the underpopulation issue in the 2 1st Congressional District?

- A I'm not sure exactly what you're getting at here.
- 4 \parallel Obviously the district would have to add 97,563 people.
- Q Was there any discussion about where the district should
- 6 be drawn?

- $7 \parallel A = I$ was just getting to that.
- 8 Q Okay.
- 9 A Okay. There was a discussion and an instruction to look
- 10 at initially Wake County as a way to resolve that population
- 11 underage, but I have to also add that in drawing that district,
- 12 we also had to resolve two other things; the population
- 13 pressures caused by the deviations of the other districts and
- 14 also the political policy goals of the General Assembly as
- 15 instructed by the two chairmen.
- 16 Q Okay. Do you recall the first version of the redrawn 1st
- 17 District? Was it drawn into Wake County?
- 18 A It was.
- 19 Q And was it drawn into Wake County in the enacted version?
- 20 A It was not.
- 21 Q Can you --
- 22 A It was drawn into Durham County.
- 23 Q Can you tell the Court why that happened.
- 24 A Well, my instructions changed, more specifically than
- 25 anything else, and my understanding of why the instructions

were given was that the Congressman from the first -- well, let me not say that because I think it was more influenced actually by the policy decisions with regard to the partisan makeup of the districts.

- Q Okay. Can you explain that?
- A Well, in order to do that, I'd really have to get into kind of a detailed instruction of the general changes that were made in the entire map referencing both maps. Do you want to do that at this point?
- 10 0 I think so.

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A Okay. In 2001 an extra district was added to North Carolina. They got a plus one in the reapportionment of the US House seats, so there was a 13th seat to be drawn in North Carolina. This seat, the 13th, was drawn as a Democratic seat. It went into -- it started out really in Guilford County and took portions of the old '97 12th District and other portions of Guilford County that were highly Democratic areas.

It then went across -- well, exited Guilford County through Rockingham County and then went over to Caswell County and another little arm of the district came down into Alamance County into the city of Burlington to pick up strong Democratic areas in Burlington. It then continued through Person County and Granville County and entered into Wake County to also pick Democratic areas in Wake County, although it had to transfer to some areas of Wake County that maybe weren't as strongly

Democratic as they might have wanted. 1 2 This district was drawn for a Democrat, and just by 3 coincidence the chairman of the redistricting committee in the General Assembly, I believe in the Senate, ran for office in that district, then Congressman Miller. 5 So how did that change then? 6 Okay. 7 The 13th District was moved essentially way to the Okay. east and became a much different district in 2011, so it is --9 it is now, was then and is now, centered around Southern Granville, Franklin and Wake, and I can't really see that map very well. Can I --11 12 Okay. 13 May I exit? 14 THE COURT: You may. THE WITNESS: Thank you, Your Honor. 15 THE COURT: Don't you have copies of those two maps 16 you can put up there so he can look at them if he needs to? 17 18 MR. FARR: They're in the exhibit, Your Honor, but --The district also -- can you hear me? 19 THE WITNESS: The district also goes into portions of Nash, Edgecombe, 20 21 Wilson, and Wayne County, so it is really centered around the Wake County Metropolitan area and then out in the rural areas 22 to the east of Wake County. That was one change. 23 24 The 6th Congressional District, which before had been centered really down in Guilford County and Alamance County 25

going to the south, was actually relocated into the portions of Guilford and Alamance and Orange and Durham County, which was more favorable to Republicans and took North Granville, Person, Caswell, Rockingham, Stokes, and Surry, so it was rotated up north and to the east.

The 10th District was changed quite a bit. The

11th District was moved up into counties like Mitchell, Avery,

Burke and Caldwell, and the 10th was rotated around and also

went into most all of Catawba, Lincoln, and Gaston, out of

which the 9th was removed and then over into Cleveland,

Rutherford, Polk, and probably most notably took in part of

Buncombe County.

The 9th went a little further out of Union County and up into Iredell County which helped the 9th District. So the 5th District kind of had to take the area in between all those districts which was the rest of Forsyth that wasn't in the 12th, Yadkin, Wilkes, Alleghany, Ashe, Watauga, Alexander, Northern Iredell and a part of Rowan and Davidson.

In the eastern part of the county, because of the rearrangements in District 1, the 3rd District came down into Person County but didn't go as far up into -- and wrap around the first as it did before.

The 7th actually came up farther north and went up as far as Johnson County. The 8th most notably was withdrawn from -- was withdrawn from Mecklenburg County and occupied part

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1 of the spaces that the 6th had been in and the 2nd.

A new district was drawn -- well, not a new district, the 4th District was actually reworked to take the remaining Democratic areas of Wake County, part of Durham County which was strongly Democratic, part of Orange that was Democratic, and part of Alamance, which was formerly in the 13th, and then down through Chatham and Harnett and took Democratic areas in Cumberland. The second wrapped around the second taking again some areas of the 6th.

So the map -- if I may go back, the map was substantially rearranged, and this, of course, had a great influence on how the new 1st and the new 12th were drawn. Does that answer your question?

- 14 BY MR. FARR:
- 15 O I think more than answers my question.
- 16 A I'm sorry.
- Q Dr. Hofeller, I want you to turn to Exhibit 26.1, which is your 6/4/15 report and turn to Map 2.
- 19 A Yes.
- 20 Q I hope you can read this, but did you make this?
- 21 A I did.
- 22 Q And can you tell the Court what this is?
- A Map No. 2 is the 2001 Congressional district showing the percentage of Obama vote in each of these districts, and the
- 25 percentages are color coded in accordance with the legend down

on the lower right-hand side of the map. Unfortunately, I don't know how to get rid of that locked completed thing in 2 Maptitude yet, even after all this time, so just ignore that. 3 All right, sir. And so -- just so the Court understands, if I look at Congressional District 1, that's the 2001 Congressional District? Is that right? 6 Yeah, I didn't quite catch the question there. 7 I'm looking at Map 2. I'm looking at Congressional 8 9 District 1, is that the 19 -- or the 2001 version of Congressional District 1? 10 Correct. 11 12 And then what's -- there's a number that says 13 62.8 percent. What is that? That's the Obama percent. 14 Α 15 Okay. And that would be -- that percentage would be the same for all the other -- it'd be the Obama percentage for all 16 the other Congressional districts listed? 18 Α That's true. Okay. Now, let's turn to Map 3 and tell the Court what 19 that is. 20 21 This is a map, Map 3, of the enacted plan in 2011 with the same shading as the previous map which shows the Obama 22 percentages in the newly created districts; so, for instance, 23

So the Obama vote in -- the 2008 Obama vote in the

again for District 1, it would be 70.58.

24

25

Okay.

2011 version of the 1st District represented 70.58 percent of the vote? Is that right?

- A That's true.
- 4 Q And that's compared to 62.8 percent of the vote for 5 president Obama in the 2001 version of the 1st District?
- 6 A That's correct.
- 7 0 So how much did that increase?
- 8 A I'd estimate roughly 8 percent, a little less.
- Q Okay. Now, let's talk about District 12. Could you again
 repeat to the Court what your instructions were for District
- 11 | 12.

- A My instructions from the two chairman were to treat
 District 12 as a political district and to draw it using
- 14 political data and to draw it in such a manner that it
- 15 | favorably adjusted all of the surrounding districts. So it was
- 16 very important in the drawing of 12 as to where the Democratic
- 17 strength was in District 12 in relationship to the surrounding
- 18 districts, which were District 6, District 8, District 9 and
- 19 District 5.
- Q Okay. And how did you go about -- what census tools did
- 21 you use to draw District 12?
- 22 A I didn't use a census field.
- 23 Q What -- tell me how you drew it on Maptitude.
- 24 A I'm sorry. I had a political thematic. You're -- you
- 25 are -- you have a choice of what shading you want to put on

units of geography. You can also put a number like population or some percentage, so they call that a thematic display in 2 color always, because it's easier to work with, and the 3 thematic was based on the two-party presidential vote in 2008 Obama versus McCain. 6 Okay. So how did you go about constructing the district 7 then? What did you look at to build the district? Well, I looked at those results, but I also looked at what 8 had to be done to accomplish the political goals in the surrounding districts once again. It really wasn't about --10 totally about the 12th District. It was about what effect it 11 12 was having on the surrounding districts. So, as an example, if I could give one, if you want one now? 13 Yes, please. 14 The amount of people in Forsyth County was reduced from 15 the baseline district, and it was increased in Guilford County, sort of like a rocking chair there, and that's because the 17 18 6th District needed to be made better for Republican interests by having more Democratic votes removed from it, whereas the 19 5th District had a little more strength in it and could take on 20 some additional Democratic areas in -- into it in Forsyth 21 County. 22 So let's turn back to Exhibit 26.1, and I want to 23 look at Map 2 again if we could. 24 25 Okay.

1 Q And so I want to look at a couple of districts here,

- 2 Dr. Hofeller, again. This is showing the Obama vote
- 3 percentage-wise in the 2001 Congressional Districts?
- A It is.
- $5 \parallel Q$ And could you tell me what the Obama percentage was in the
- 6 2011 12th District?
- 7 A 78.06.
- 8 Q Okay. I'm seeing 70.28, so maybe your eyes are not seeing
- 9 that far.
- 10 A I'm sorry, I must have misheard you. I thought you said
- 11 2011.
- 12 Q No, I'm looking at Map 2, which is the 2001 plan, right?
- 13 A Okay. That would be 70.28.
- 14 Q All right. And if we turn to Map 3, we're looking at the
- 15 2001 plan, right?
- 16 A I'm sorry, we're looking at what plan?
- 17 Q The 2011 plan?
- 18 A Yes.
- 19 Q And what's the Obama percentage in the 12th District in
- 20 2011 plan?
- 21 A 78.06.
- 22 Q Okay. And how much of an increase is that?
- 23 A It's about 7.8.
- 24 Q How about if we get the exact number. In that same
- 25 exhibit, would you turn to Table 3.

Table 3? 1 2 Yes. 3 Okay. Are you there? 4 5 No, I'm not there yet. I'm looking for the tables in the 6 wrong section of the report. 7 Table 3 is closer towards the front. 8 Yep, I realize that now. I'm there. 9 Tell the Court what Table 3 is. Table 3 shows for the 2001 and 2008 -- or 2011 plans the 10 black demographics and the Obama/McCain vote for the two 12 districts for the two years. 13 And the -- there's a column there that says 18 plus total black population. What does that mean? 15 The census would call it 18 plus AP black population, but this is what the General Assembly's staff put in their reports, so it's the percentage of people who indicated their race as 17 single race black or any other race black in -- on the census form. 19 20 So in the 2001 version of the 12th Congressional Okay. District, what was the percentage of that district that was 18 plus total black? 22 23 2001? Α 24 Yes. 25 43.77.

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Α

Yes.

1 And that's the same thing as voting age, total Okay. 2 black, right? Yes. 3 And what was the percentage of that same category 4 Okay. under the 2011 plan? 5 50.66. 6 7 So how much did the voting-age total black population increase percentage wise from 2001 to 2011? 9 6.89. All right. Now, let's go to the right and tell the Court 10 what that column is about total two-party vote for president? 11 12 The far right? Α 13 Yes. In 2001 the Obama vote, two-party Obama vote was 70.75 14 percent. In 2011 it was 78.52 percent for a gain of 7.77 15 16 percent. 17 Okay. Now, in this chart you're looking at the two-party vote. What does that mean? It's strictly the Obama vote and the McCain vote 19 Yeah. divided by the total of the two votes. 21 Okay. So if we look back to Map 3, you've got on Map 3, Dr. Hofeller, you say the total Obama percentage was 78.06 22 percent. Do you see that? 23

Can you explain to the Court what the difference is

1 between that figure and the total two-party vote that you

- listed in Table 3.
- A I believe it's because, again, that is the percentage 4 Obama, straight percentage.
- 5 Q That includes all the people who were running for 6 president, not just the two-party vote?
- 7 A Yes.
- 8 Q Okay. All right. Now, let's -- let's look at a couple of 9 other districts. I'm looking at Map 2. This is, again, the
- 10 percentage of the Obama vote in the 2001 Congressional Plan.
- 11 Do you see that?
- 12 A Yes.
- Q What was the percentage of the Obama vote in the 2001
- 14 version of Congressional District 13?
- 15 A 58.86 percent.
- 16 Q And if we turn to Map 3, that's the percentage of the
- 17 Obama vote for the 2011 Congressional districts?
- 18 A Yes, for District 13?
- 19 Q Yes. What's the percentage for District 13?
- 20 A 44.98.
- 21 Q Okay. So how much of a difference was that? Can you
- 22 estimate or give us --
- 23 A I'm just trying to do the math in my head.
- 24 Q Okay.
- 25 A I'm sorry. I think it's dropping, about 8 percent.

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And let's just look at one more district if we
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        Okay.
  could. If we turn to Map 2, again, this is the 2001
 2
   Congressional districts, correct?
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        All right.
        What was the Obama percentage for Congressional District
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  8?
 7
        52.37.
        And if we turn to Map 3, what was the percentage for the
 8
  2011 version of District 8?
 9
10
        41.67.
        All right. And can you -- what -- how much difference is
11
12
  that? Talking the 2011 Congressional District No. 12, did you
  refer to any racial information in drawing the district?
13
        In actually drawing the district?
14
  Α
15
        Um-hum.
16
        No.
17
        And why did you use the Obama/McCain race?
18
        Because it was a close race. It was a presidential race.
  It was a high turnout year and because I felt that it would be
   indicative of what could happen in the future. I could have
20
  used other races. It would have come out pretty much the same
21
  anyway because those races correlated very closely, although
22
   the percentages might be higher or lower, but the same kind of
23
  precincts would have the same behavior, maybe at a higher
25
   level, depending on the votes received by the Republicans and
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1 the Democrats in those races.

- Q Were you here when Dr. Ansolabehere testified about you using one race to construct the 12th District?
 - A I think I'd rather refer to it as one election contest --
- 5 Q One election?
- 6 A -- for clarity sake, yes.
- 7 Q Do you have any response to what he said?
- MR. HAMILTON: Objection, Your Honor. I don't have any problem with him testifying, but Dr. Ansolabehere was on the stand for four hours. So maybe we could have a more specific question rather than what's your response to four hours of testimony.
- 13 MR. FARR: I'll rephrase that, Your Honor.
- 14 THE COURT: All right.
- 15 BY MR. FARR:
- Q What I meant to ask, Dr. Hofeller, was did you hear him testify -- criticize you for using just one election in the
- 18 Obama election to construct the 12th District?
- 19 A I did.
- 20 Q And do you have any response to what he said about that?
- 21 A I guess my response is this: That in my judgment, with my
- 22 50 years of redistricting experience, I have many many times
- 23 used one race. It isn't that I don't think it's precisely
- 24 determinative, but I found, once again, that these races track
- 25 one another at different levels, so I could have used the

governor's race in '08 or the Senate race from '10 and the results would have been the same.

But in this case, I decided to use this race because it was, in my view, a good high mark of a -- what I call an on-year race, a race with higher voter turnout. If you go to off years, what we call congressional years, you have lower turnout, you have different dynamics, and so we're looking for districts that will hold their political characteristics, to the extent that any districts hold them, over a decade rather than a one or two year cycle.

- 11 Q All right. Did you actually look at any other races, 12 Dr. Hofeller?
- A We looked at pretty much all of them in the state. Of course, the initial choices of what was put in the database as approved by the chairman looked for races that were fairly competitive; but, of course, every race is an entity unto itself.
- Q All right. Dr. Hofeller, I've handed you an exhibit
 labeled Defendant's Exhibit 124. Could you tell the Court, did
 you make this.
- 21 A I did.

3

6

- 22 Q Would you tell the Court what it is.
- A This looks at the differences between the 2011 enacted plan and the 2001 plan for demographics and for a number of political races, both before and after the redistricting.

25

MR. HAMILTON: Objection, Your Honor. 1 2 THE COURT: Basis? 3 MR. HAMILTON: The document is not -- it's outside the scope of his expert reports. The document has never been identified before. It wasn't identified as a trial exhibit 5 pursuant to Rule 26. It's not out of the Dickson reference. 6 7 This appears to be -- I haven't had a chance to consult with counsel. The first time I've seen this document was literally 8 as Dr. Hofeller was taking the stand, so I haven't had a chance to consult with counsel about where this document came from or how long it's been in existence, but this, and there's several 12 others, there's three or four exhibits I haven't had a chance to talk with Dr. Ansolabehere, but I think it appears to be an 13 effort to create a rebuttal after the close of the exchange of 14 expert reports, and so --15 16 THE COURT: Mr. Farr? 17 MR. FARR: Your Honor, the top chart, I believe, about the 2008 general election, McCain and Obama, I believe that's a compilation of evidence that's already in the record, 19 and the rest of the exhibit, Your Honor, we were only offering 20 for illustrative purposes. 21 22 THE COURT: So your Dr. Ansolabehere took a look at it, as I understood it, the McCain/Obama vote also. Is that 23 correct or incorrect? I thought he talked about why he 24

rejected it for several reasons, but I did think he looked at

it at some point, but he didn't have the stats with him? MR. HAMILTON: He did, and that was the subject of his expert report and a subject of Dr. Hofeller's reply. mean, it had an exchange in the expert reports. That's the whole purpose of exchanging expert reports so that people aren't ambushed at trial with documents, and I don't think it's an answer to say, well, we're only using it for illustrative purposes, so we're simply going to have the doctor walk through the analysis. That's the whole point of Rule 26 and the pretrial disclosures.

THE COURT: I understand. I'm just trying to get squared away on what I think is fair and unfair -- fairly and unfairly within the exchange of information between the expert witnesses.

The other thing I will say, and I'll talk -- we're going to go ahead and move through and then we'll see. The other thing I am somewhat troubled with, not tremendously, is that there's a little bit of this on the other side, too, in terms of how the boundary ratios were calculated I think is one area where we're going to have the actual calculations within the report, and then it seems to me there were some other discussion of having looked at and rejected information but don't have the actual figures. I may not be remembering correctly, but I thought I remembered some of that type of testimony from Dr. Ansolabehere.

So why don't we do this: Let's just -- if it's 1 2 illustrative purposes, we'll take a look at it. You'll have a 3 chance to talk to your expert over the break, and then we'll see if we can work through this either tomorrow or later. 4 MR. FARR: And, Your Honor, I might point out that 5 most of this information is in the map notebook that we 6 7 mentioned when we opened the case that has got the maps. I don't have much problem with that. I 8 THE COURT: 9 think the central objection is we've got further explanation of the expert witness's opinion being provided now as opposed to having been included within one of these two reports. 11 12 the core of the objection. MR. HAMILTON: That's right, Your Honor. 13 THE COURT: So hang on just a second. We're going to 14 go ahead and take the afternoon -- the overnight recess, and 15 we'll let you all kind of work through and make sure of what 16 you're dealing with here. I'm assuming you all are working on 17 18 that email and we'll have a final answer for us. Yes, Your Honor. 19 MR. FARR: All right. Sounds good. 20 THE COURT: Thank you, Your Honor. 21 MR. HAMILTON: THE COURT: If there's nothing further this 22 afternoon, we will stand in recess until tomorrow morning at 23 Let me -- I'll go ahead and stand up, but I will say 24 25 right now I'll say tentatively to the extent we're going to try

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to break tomorrow at 5:00, and so closing arguments and the
 2
  time for that will be somewhat controlled by what time we
 3
   finish the evidence tomorrow to the extent that helps you plan.
             MR. HAMILTON: And, Your Honor, one thing I should
 4
 5
   just point out --
 6
             THE COURT: By the way, that wasn't an invitation to
   take until four.
 7
             MR. HAMILTON:
 8
                             No.
 9
             THE COURT: If you get done sooner, that would be
10
   great.
11
             MR. HAMILTON: I would agree entirely, Your Honor.
12
  We have -- we will have a very, very brief rebuttal case, and I
   can't really describe it yet because it largely depends on what
13
  Dr. Hofeller says. It will only consist of a single witness,
14
   and it'll be Dr. Ansolabehere coming back for maybe 15 at most
  30 minutes of --
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17
             THE COURT: All right. With that caution, we'll
18
   stand in recess until tomorrow at nine.
              (At 5:14 p.m., proceedings adjourned.)
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CERTIFICATE I certify that the foregoing is a correct transcript from the proceedings in the above-entitled matter. Joseph B. Armstrong, RMR, FCRR Date: 10/19/2015 United States Court Reporter 324 W. Market Street Greensboro, NC 27401